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ORIGINAL COMMUNICATIONS.

NOTES ON THE LOCALIZATION OF DISEASES OF THE BRAIN.

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*Read before the Philadelphia County Medical Society,
January 22, 1879.*

THROUGH the observation of patients, conjoined with autopsies, physicians can do something towards solving the problem of the cerebral functions, and my object this evening is simply to introduce the subject of the localization of diseases of the brain, by the presentation of some notes upon cases, with a few remarks on their import and bearing. For the sake of brevity, unessential details have been left out in reporting these cases, but nothing has been omitted that would affect their interpretation.

My first case was a married woman, aged 41 years. She came under observation four months before her death. Fourteen months before this time she had suddenly become paralyzed on the right side. Several years previous to this attack she had had rheumatism. An aortic regurgitant murmur was discovered. It was ascertained that, when first stricken with paralysis, she had some difficulty in deglutition, with positive facial paralysis and aphasia.

On examination, she was found to have slight right facial paralysis, the lower part of the face only being affected. The forehead and right eye were not involved. She was decidedly aphasic, but could pronounce a few simple words, and seemed to understand what was said to her. She had well-marked paralysis of the right upper extremity. The shoulder was stiff; the forearm was semiflexed on the arm, and the thumb and fingers were also bent inwards on the palm; but these parts could be straightened by force, only, however, to return again to their unnatural position. The entire limb was a little wasted, and she frequently complained of pain in it. Her right lower extremity showed some loss of motor power, but not the distinct paralysis observable in the upper limb. It was paretic rather than paralyzed, and exhibited no contractures. No loss of

sensation could be made out. Farado-contractility was good on the paralyzed side.

This patient had phthisis, and also, as revealed by autopsy, an intra-thoracic growth, probably carcinoma, and a tumor of the liver. She died exhausted, suffering much the week before her death, from dyspnoea and pain in her chest and right side.

The autopsy was held eighteen hours after death. No disease of the skull or membranes was detected. An area of yellowish-white softening was found, involving a small portion of the hinder part of the third left frontal convolution, the lower end of the ascending frontal, the entire surface of the island of Reil, and a narrow segment of the adjoining temporal convolution. The substance of the left hemisphere was paler than usual. The left corpus striatum and optic thalamus were normal. No other cerebral lesion was discovered. Slight vegetations were present on one of the crescents of the aortic valve, besides the other lesions to which I have alluded.

The second case was a man 40 years old, who had had two attacks of paralysis of the left side, from which he had in both instances, in a few weeks, almost completely recovered. The arm and face had been more affected than the leg. Examination revealed a paretic condition of the lower part of the face, on the left side; the mouth was drawn very slightly to the right; the eyes and upper face were unaffected; he had no aphasia. The left upper limb was weak, but he could elevate it to a horizontal line, and perform all movements with it, but not vigorously. Neither arm, forearm, nor hand exhibited paralysis or contractures in distinct groups of muscles. The left leg was a little weaker than the right, but that was all. No loss of sensation or interference with the special senses was present. The right side of the body was normal. While under my care he had two local spasmodic seizures, each lasting not over a minute, one involving the left arm and the same side of the face, the other only the lower part of the face. No change in his paralytic symptoms, and no subsequent stroke, occurred, but he died, a week after coming under observation, of what was supposed to be uræmic poisoning.

The post-mortem examination was made

nineteen hours after death. The skull and dura mater presented nothing abnormal. The pia mater was cedematous and moderately congested, particularly over the right hemisphere. Anterior to the fissure of Rolando, on the right side, was an arc of distinct softening. It began above, about an inch from the longitudinal fissure, at the border of the fissure of Rolando, extending forwards and outwards so as to involve slightly the posterior extremities of the first and second frontal convolutions, and then bending inwards and backwards again towards Rolando's fissure, the edge of which it reached once more near its inferior termination. The area of softening was irregularly crescentic in shape, and varied in width from one-fourth to three-fourths of an inch. The inner edge of the crescent and its ends, which were enlarged, were situated in the ascending frontal convolution. The portion of this convolution between the softened space and the fissure of Rolando remained unchanged. The diseased mass had invaded deeply the gray matter, and at each of its extremities had encroached upon the white substance. A small cylinder of the softened tissue reached to the median surface of the brain, about half an inch beneath the convexity. The arc of softening was the only discoverable lesion of the brain.

The lungs were cedematous. A cheesy focus was found at the base of the right lung. Both kidneys were highly granular.

My third case, reported in full elsewhere (*Medical Bulletin*, vol. i. No. 1, p. 13, January, 1879), was a man, 66 years old, who for at least eighteen months before his death had had hemiplegia of the right side, with aphasia, the paralysis being most decided in the arm. He had marked loss of sensibility in the right arm, forearm, and hand, and the same condition, but less pronounced, in the right lower extremity. Fourteen days before he died he had two severe attacks of right unilateral convulsions, and a week later he had a similar seizure. His hearing was defective, and he was irritable and emotional.

Post-mortem examination showed destruction, by softening, of the following parts: a small outer rim of the island of Reil; a posterior segment of the third frontal convolution; the lower thirds of the ascending frontal and ascending parietal convolutions; the upper border of the first temporal convolution; the Sylvian

border of the lower parietal, and the posterior portion of the upper parietal convolution.

Several examples of what I have supposed to be facial monoplegia have fallen under my observation, but I have not yet had the opportunity of confirming my supposition by an autopsy. In the *Philadelphia Medical Times* for October 26 and November 9 and 23, 1878, is a series of "Lectures on a Case of Facial Monoplegia," by John Guit  ras, M.D., physician to the Philadelphia Hospital. I had the pleasure of seeing the specimen from the case, which is ably detailed and discussed in these lectures. The lesion which probably caused the partial facial paralysis present was a distinctly defined area of softening, which involved one inch of the length of the ascending frontal convolution.

The cases here reported may be looked upon as additional evidence that destructive lesions of certain districts of the cerebral cortex cause paralytic symptoms more or less extensive and permanent. They also indicate, from the local spasms occurring in the second case, and the unilateral convulsions in the third, that a destructive lesion of the cortex may at the same time be irritative, or that it may become so temporarily. In the first case, the aphasia, and facial and brachial paralysis, were due to a lesion of portions of the areas usually regarded as the centres for speech and for face and arm movements. The ordinarily given leg-centres, high up in the ascending frontal and ascending parietal convolutions, were not involved, although the right leg exhibited some loss of power. The transient character of the dissociated hemiplegia, which occurred twice in the second case, is of interest. The cutting off of blood-supply from the lodging of an embolus, in a case of this kind, may, in the first instance, include a larger area than subsequently undergoes softening. The effects of a sudden lesion also probably radiate for a time, for a certain distance, into neighboring parts. It will be recalled that the paralysis produced in animals by destruction of cortical areas was commonly transient. The arc of softening found in this second case was so situated as to involve only small portions of the general districts or centres for leg, arm, and face. The third case illustrated aphasia and tolerably complete hemiplegia

from an extensive destruction of the cortical motor zone. The paralytic symptoms present in this patient resembled somewhat closely those produced by lesions of the basal ganglia. The unilateral convulsions were also similar to those which sometimes result from disease of the corpus striatum. The defective hearing, without disease of the ears, and the marked loss of sensibility on the paralyzed side, especially in the arm, are interesting, from the fact that some of the physiologists have located sensory centres in both the inferior parietal lobule and first temporal convolution.

I have notes of three unreported cases of hemorrhage into the optic thalamus, in all of which incomplete hemiplegia with hemianæsthesia had been produced. In each case the hemorrhage was large. The anæsthesia in two was pronounced; in one it was slight, and better made out in the arm than elsewhere. No spasmodic symptoms were observed. In one case the crus cerebri adjoining was involved in the hemorrhage, this patient being markedly hemianæsthetic.

In two cases of hemorrhage into the corpus striatum well marked motor paralysis of the usual type had been exhibited. Anæsthesia was not present, or, at least, could not be recognized. The lower fibres of the facial nerve were partially paralyzed; and the paralysis of the arm and leg seemed to me more decided than in the cases of hemorrhage into the thalamus opticus. In one case the clot was confined to the nucleus caudatus or intra-ventricular part of the corpus striatum; in the other, portions of both nucleus caudatus and nucleus lenticularis were included in the lesion. I give these cases simply because they are additions to actual experience, avoiding lengthy details, as the symptoms observed did not differ from those frequently reported. Recently, however, I presented to the Pathological Society of Philadelphia specimens from two cases of peculiar interest. In one of these the lesion was triple, consisting of a large clot in the right optic thalamus, a small cyst in the right corpus striatum, and a large cyst in the left corpus striatum, the symptoms being left hemiplegia and hemianæsthesia, without right hemiplegia. In the second case a small apoplectic cyst was present in the right corpus striatum, the patient not having been hemiplegic.

In still another case, never before re-

ported, I found softening, involving the entire right island of Reil, a portion of the second and third frontal and of the third and fourth temporal convolutions, where they bound the Sylvian fissure, and two-thirds of the corpus striatum within the lateral ventricle. The symptoms observed during life were mental hebetude, slowness of speech (but not aphasia), dulness of hearing, slightly impaired sensibility on the left side, and general muscular weakness. He was not hemiplegic, as we clinically understand the term hemiplegia. The muscular weakness was a little more evident on the left than on the right side, but he used both arms and both legs with almost equal facility, and no contractures were present.

From a study of these examples of lesion of the great basal ganglia, it will be seen that, while partial destruction of the corpus striatum usually causes typical hemiplegia, such is not always the result. In some instances little or no paralysis occurs. Hemorrhage may occur into the optic thalamus also, without motor paralysis, although in all of my cases more or less complete hemiplegia was present. According to Nothnagel, indeed, lesions of which the thalamus opticus is the exclusive seat are not followed by motor paralysis at all. He also says that it may be regarded as demonstrated that lesions in the interior of the thalamus opticus cause no disturbance of sensibility. (Ziemssen's Cyclopædia, vol. xii. pp. 148 and 149.)

Both the corpus striatum and optic thalamus are connected by fibres with the convolutions above, and below with the mesencephalon. In addition, a bundle of white fibres, called the internal capsule, is supposed to pass, compressed into a small compass, between the outside of the optic thalamus and the nucleus lenticularis, or portion of the corpus striatum which lies beyond the ventricles in the substance of the hemispheres. It is probable that within this internal capsule are included both the great sensory and motor tracts which go to and proceed from the convolutions, and it may be, as has been supposed by some, that true paralysis only occurs when the internal capsule is implicated directly or by pressure.

Time will not permit me, this evening, to go into any lengthy discussion of the various theories of localization and the question of the real nature of paralysis.

The broad fact that one-half of the body is controlled by the opposite half of the brain is of itself a strong point in favor of the general doctrine of localization. Cases without number, similar to those given in this paper, have been recorded to prove that paralysis usually appears on the side opposite to the brain lesion. Brown-Séquard's array of opposing cases is, after all, probably only sufficient to show that we may have exceptions to a great rule. This is especially likely, since recent embryological researches have shown that the decussation in the medulla oblongata is variable in character.

The tracts which go to and from the cortex also, doubtless, vary somewhat in their directions, and special centres may differ according to the age and habits of the individual.

In regard to the nature of paralysis, my personal experience has not as yet been sufficient to enable me to come to an absolutely satisfactory opinion. With Bastian (*Paralysis from Brain Disease*, p. 50), I incline, at present, to think that several explanations may be allowed, in accounting for paralytic phenomena. Some of the symptoms may be due to irritation, others to destruction of brain tissue, and in still other cases, injuries to the brain, besides causing direct symptoms, may produce stimulating or inhibitory effects upon more or less remote parts. I consider it probable, also, that a special form of inhibitory motor paralysis may result from a strongly irritative lesion of portions of the antero-frontal lobes. I reported to the Pathological Society of Philadelphia a case of fibroma, involving the first and second frontal convolutions, convolution of the corpus callosum, and corpus callosum, in which the paralysis present appeared to be of the true inhibitory type (*Philadelphia Medical Times*, January 18, 1879). I believe it not unlikely that we will learn to distinguish between paralytic symptoms due to inhibitory action, and those which are the result of pressure or tissue-destruction.

In concluding these brief notes I would say to those who may question the value of such investigations that even direct practical results from a study of cerebral localization have not been entirely wanting. They have been obtained chiefly in the domain of surgery. Thanks to the labors of such men as Broca, Bischoff, Turner,

and others, cranio-cerebral topography is now pretty well understood. The physician or surgeon can determine with considerable precision such points, for instance, as the relations of the fissures of Rolando and of Sylvius to cranial sutures, the superior levels of the great cerebral ganglia, and the situation with reference to external areas of such important convolutions as the third frontal and angular gyrus.

The surgeon's trephine may be guided with greater certainty than ever before to the seat of a lesion. Broca, in 1871, successfully located an abscess of the third frontal convolution of the left side, and reached the lesion by operation. Even supposing the position of an abscess of the brain to be accurately determined, it may be said that an operation might be dangerous or impossible, and I recognize the fact that operative interference would only hold out hope in a limited number of cases. In the matter of organic cerebral affections, however, a little advance is a great gain. Huguenin (*Ziemssen's Cyclopædia*, vol. xii. p. 819) mentions an instructive case, in which Renz succeeded, after extracting the blade of a knife, in emptying an abscess which lay deep in the brain by successive introductions of a subcutaneous syringe. The patient was cured. He lived eight years and a half free from all brain symptoms, and died from hemorrhage of the lungs (or stomach?). It is true that in this instance an external opening was present; but it shows the possibility of emptying and healing an abscess deeply situated in cerebral tissue.

M. Proust (*Med. Times and Gazette*, December 16, 1876) communicated to the French Academy of Medicine the case of a young man who had received a bayonet wound on the left side of the head, and subsequently had partial aphasia and incomplete paralysis of the right face and arm, with other symptoms. With the aid of M. Terillon, trephining was performed. The aphasia and arm paresis instantaneously improved. Hebetude, which had been present, disappeared, and the patient eventually recovered. Trephining has been successfully employed in a similar case by another French surgeon, M. Lucas Champonnière, who has given to the profession certain data for determining the "line of Rolando" (*Lancet*, July 7, 1877). Aphasia, monoplegia of the face, arm, or leg, imperfect

hemiplegia, limited convulsions, strabismus, and nystagmus, are among the symptoms which can now be successfully employed by the surgeon in deciding upon cranial operations.

In medicine a more reliable prognosis can be given in intracranial affections if we can locate with accuracy the seat of disease. Regional diagnosis also is often a great aid to general diagnosis: knowing *where* a lesion is, we can frequently come to a more satisfactory conclusion as to *what* it is; and thus we may be able sometimes to discriminate to the advantage of our patients between such conditions as clot, tumor, softening, sclerosis, and meningitis. Mental diseases are becoming better understood; some of them, for instance, being found to be due to lesions of the cortex, macroscopic or microscopic. Circumscribed cerebral meningitis is an affection which cannot always be recognized from the general picture drawn of it in ordinary text-books; but a knowledge of the varying effects produced by the disease, according to the region of the brain covered by the inflamed membrane, will often help greatly to a correct conclusion.

The substitution of one region of the brain for another whose functions have been annulled by disease, through some system of development by training, is a new path in cerebral therapeutics, which holds out some promise, and is an outcome of the study of localization.

A study of the symptoms produced by involvement of successive districts of the cortex has done much to clear up the mists which have enveloped that interesting affection known as general paralysis of the insane.

ELEPHANTIASIS, LEPROSY, AND TINEA IMBRICATA.

Extract from a letter addressed to Dr. Ruschenberger

BY C. A. SIEGFRIED, M.D., U.S.N.

IN the issue of the *Philadelphia Medical Times* for October 12, 1878, No. 284, is an extract from a letter addressed to Dr. Ruschenberger by Dr. C. A. Siegfried, U. S. Navy, referring to investigations of elephantiasis by Dr. Patrick Manson, of Amoy, China. It was stated, inadvertently no doubt, that he, in conjunction with Dr. Lewis, of India, and Dr. Bancroft, of Australia, had discovered and made known the

existence of the *filariæ sanguinis hominis*. The *filariæ* referred to were first described, and descriptions of them published in the Proceedings of the Academy of Natural Sciences of Philadelphia for 1850-51, by Dr. Joseph Leidy. In a brochure on "The Pathological Significance of Nematode *Hæmatozoa*," by T. R. Lewis, M.B., Staff-Surgeon H. M. British forces, etc., Calcutta, 1874, full credit is given to Dr. Leidy for these discoveries.

In a letter recently received, Dr. Siegfried writes:

"YOKOHAMA, JAPAN, December 20, 1878.

"Regarding *filariæ sanguinis hominis*, I have some interesting matter. I saw Dr. Manson, December 5, 1878, and he gave me the following case from his manuscript, which is important, and shows that he is making some headway both in his theory and methods of investigation:

"*ELEPHANTIASIS AND LYMPH-SCROTUM—FILARIA IN LYMPH FROM VARICOSE GLANDS, BUT NOT IN THE BLOOD FROM FINGER.*

"Henry M., æt. 38, chair-coolie by occupation.

"No elephantiasis in family or neighborhood, he says. Has had enlarged scrotum for three or four years; attributes it to sleeping on the hill-side in the rain. Has fever seven or eight times a year, accompanied by swelling, redness, and pain in the scrotum. Now, however, it has more an elephantiasis appearance, though softer than elephantiasis usually is. No distinct vesicle or lymph-vessel visible. Never had dysentery or chyluria. The inguinal and femoral glands much enlarged; some of them varicose and others consolidated. In lymph from one of the former, extracted with a subcutaneous-injection syringe, I found, to-day, 17th November, 1878, a languid *filaria* embryo. Six slides of blood, containing probably six drops of blood, were carefully examined, but no embryo was discovered in it. The subcutaneous syringe was again used to extract lymph from the groin glands, and clear lymph procured: in this four embryos were found in six slides, one containing two. The embryos were very languid in their movements, one, at least, being shrivelled, the lash at the head standing out very distinctly, even when seen with a low power.

"Besides the unquestionable *filaria* embryos, numbers of threads about $\frac{1}{100}$ " in length were found in the lymph, their appearance suggesting that they were the collapsed tube of the embryo, the body of which had disappeared by absorption or disintegration.

"This man's scrotum was amputated. It had the appearance usual in elephantiasis.

It was carefully dissected, but no mature filaria was found.

"Since the operation, fourteen days ago, the swelling of glands has subsided, and the case is doing well.

"I read the case as follows. In elephantoid disease parent filariæ have developed in the lymphatics; by their presence, or by the irritation their embryos excite, lymphatic vessels may or may not inflame. If they do not inflame, the embryos pass freely along the lymph-vessels to the blood, and there is no elephantiasis; if they do inflame, the channels in the lymph-glands are obstructed, either by inflammatory effusions, etc., or by the embryos themselves. Lymph-dropsy happens on distal side in consequence; if obstruction is complete, so that no lymph circulates, this fluid is organized into solid tissue-elephantiasis; if there is no obstruction, but still partial circulation, there is lymph-scrotum.

"Now, to find filaria embryos one must look, in elephantiasis pure, in the distal lymphatics; in lymph-scrotum, in the lymphatics or blood; in filaria [disease?] without inflammatory complication, in the blood. After a time parent filariæ die, but their embryos may survive, gradually becoming less and less active, until they degenerate and are absorbed or disintegrated, as undoubtedly occurred in this case.

"This man's blood has been examined daily since the operation, but no embryos have been found in it.

"You may form your own deductions from the above, but it is an advance, it seems to me, and it may answer some of your interrogatories concerning this matter of filaria and elephantiasis. At first, Dr. Manson often failed to find filariæ, but now, after his long experience, he readily picks them out on almost any chance slide of blood from the proper cases. I consider it a most difficult matter to find a filaria embryo with a fairly good power. The whole question is becoming clearer, and it seems reasonably certain that before very long elephantiasis and filaria sanguinis hominis will stand as cause and effect. Dr. Manson argues that he almost always finds filaria embryos in *chyluria*; that *chyluria* and lymph disease are associated in a large majority of cases; that lymph disease characterized by glandular engorgement generally, and *lymph-scrotum*, are usually associated, and that one or the other of the foregoing is commonly found in elephantiasis pure. From this chain he concludes that filaria sanguinis hominis is truly involved in the etiology of the disease.

"Perhaps you know that we went to

Foochow from Amoy, to aid in quelling riots in that city. The missionaries had some trouble, and suffered the loss of a school-building by fire. Nothing else was done. I had an opportunity, during the peaceful intervals, of visiting Foochow proper, in company of Dr. Osgood, of the American missions, and saw wonders. He took me to a leper settlement, in which were some three hundred cases in all stages. The settlement is beyond the walls of the city about half a mile, and is not particularly isolated or quarantined. Here live a complete community of lepers, of all ages, varieties, and conditions. Some keep shops; some work in the fields; some carry public offal; some begged, and many more were quietly waiting to die. I saw some mothers with babes in their arms. Upon inquiry, I learned they were married or not, as they pleased. One woman suckling a child was found to have a partially destroyed foot. A few were lying on straw mats, unable to rise, being in the last stage of the disease. I picked out a boy who was not leprous at all, but covered with the disease I wrote you about some time ago,—*tinea imbricata*. He was supposed to be leprous, but sulphur ointment and missionary supervision dispelled that notion. These poor people simply go, and are sent by public opinion more than anything else, to this little village, live and die, and begot more lepers, not knowing supervision or government care at all. They receive no treatment, or none is given them, beyond very occasional visits from missionaries; in fact, nothing is done for them. By accessions from the city close at hand, and surrounding country, they keep about the same number. A rude enclosure surrounds the settlement, and their fields are close by; at night they go within the gates to their shabby huts, and in the morning to their customary labors. Those having trades follow them; but one can see that work is not for great gain, but for bare subsistence.

"The missionary physicians are few and hard-worked, and give no time to experimental work, here. They have more than they can do with disease susceptible of some amelioration at their hospitals and dispensaries connected with the chapels. I have seen a medical missionary treat out-door patients for two hours, and in that time operate on three fistulæ in ano, evacuate several abscesses, pull teeth,

excise a sebaceous cyst from the plantar surface of the foot, extract polyps from the nose, perform iridectomy, and minor things without number. He had two native assistants, yet he did nearly everything himself, except handling the patients. To look after a hospital of more than forty beds, two out-door dispensaries, and the families of the missionary community, native and foreign, all for eight hundred dollars a year, requires high qualities in these days. Besides, there is a constant temptation, on the other side of the river, to practise among the foreign commercial community, at about four thousand a year. He has been solicited to do so, but he sticks to his post. These medical missionaries do more good than any other; in fact, the only visible good.

"Foochow is said to contain over a million of inhabitants. It is a great tea place, and is situated on an alluvial plain, thirty-six miles from the sea, on the river Min. Here may be seen one of those examples of Chinese economy so striking to outside barbarians. Having frequently observed water-closets built over square fresh-water ponds, here and there about the city, and noticing there were fish in the water, I inquired about it, and learned that it is customary to use those fish, and that they are literally cultivated and sold from those places. A nature's laboratory! The fish is a species of carp, and grows to three or four pounds' weight.

"In the district of Fuhkien eighty per cent. of the inhabitants have itch disease in one of its various forms. I have this from a gentleman in practice at Foochow, who took pains to get at the matter.

"The new *tinea* which I mentioned Dr. Manson calls *tinea imbricata*. It may be distinguished from *tinea circinata* by its invading all parts of the body, gradually, in a series of concentric rings, no part healing in its track; by its appearance, similar to that of a piece of watered silk; by its obstinacy; by the fact that it is usually from India or the Straits settlements, and by the microscopic appearance. The spores are more numerous and clustered than in *tinea circinata*; the mycelia are rarely or never twisted into ropes, but spread uniformly over the field, and the scales are larger. The epidermis is excavated and raised in flakes, and the fungus confines itself to the more superficial layers of the corium."

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URTICARIA, ETC., FROM QUININE.

BY I. H. KING,

Captain and Assistant-Surgeon U.S.A., Post Surgeon.

SOME unusual toxic phenomena attending the exhibition of quinine having recently attracted attention, no apology seems necessary for recording any facts bearing upon the abnormal physiological action of this important alkaloid, and I therefore proceed to give you the particulars regarding a well-marked case of this nature which came under my observation.

In May, 1877, while stationed as post surgeon at Fort Concho, Texas, I was called in to prescribe for an officer's wife, æt. 22, possessing a sound, healthy constitution, suffering from quotidian intermittent fever. I ordered a mercurial cathartic that evening, and to commence next morning with quiniæ sulphatis, gr. v tertiâ quâque horâ. About 9.30 A.M. the following day I was hastily summoned to this lady's bedside, and found her in an alarming and truly pitiable condition: her face, eyelids, and neck were puffy and oedematous, the whole body suffused with a scarlet efflorescence, great dyspnoea and præcordial oppression, fauces swollen and inflamed, dysphagia and sensations of choking, very rapid pulse, much febrile disturbance, considerable deafness, dilated pupils, severe headache, a wild expression of countenance, extreme restlessness and intolerable itching,—the latter being so severe that she was almost unable to resist tearing and scratching herself to pieces.

Only one dose of the quinia salt (gr. v) had been taken, two hours before, which was, she informed me, the cause of these grave symptoms,—she having been similarly affected on previous occasions after the administration of this antiperiodic.

The exanthema was vivid red and of an urticarious character, extending over the entire surface, with wheals on the chest, sides, and flexures of the joints, coalescing and running together, covering large spaces of integument; these wheals were accompanied with subcutaneous oedema and stiffness of the parts. The cutis was remarkably hyperæsthetic.

In the foregoing it will be observed that many of the first indications of cinchonism, as produced by ordinary therapeutic doses of quinia, were present, but intensified.

The alkaloid is said to be quickly dissolved by the acid gastric juice, and thus

rendered favorable for rapid absorption: in the present instance its effects were no doubt exaggerated by being ingested early in the morning on an empty stomach after the action of the purgative. However, the brief period which had elapsed justified the conclusion that all the drug might not be taken up, and accordingly the stomach was thoroughly evacuated with an emetic of sulphate of zinc, preceded by mustard-water, the patient afterwards to have saline aperients and the body to be sponged with an alkaline solution. I watched this lady closely during the day: improvement gradually took place, and in the course of twenty-four hours most of the distressing symptoms had disappeared. Her recovery was speedy and satisfactory; desquamation of the epidermis occurring from the second to the fifth day. The ague did not return.

Of course the lady had no idea what medicine she had taken, or she would have named this idiosyncrasy. She stated that her sister and father (mother dead) were both affected in this toxic manner by quinine.

I may perhaps be permitted to add in conclusion that it has been my lot to see quinine extensively employed in India and in this country, but that I have never witnessed any phenomena after its ingestion resembling those which I have here endeavored to portray.

POST HOSPITAL, FORT MCINTOSH, TEXAS, Dec. 18, 1878.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINIC OF R. J. LEVIS, M.D., SURGEON TO THE HOSPITAL, ETC., JANUARY 15, 1879.

FRACTURE OF LOWER END OF TIBIA, WITH GREAT DEFORMITY, REQUIRING DIVISION OF TENDO ACHILLIS PRIOR TO REDUCTION—DRUNKARD'S FRACTURE OF THE ANKLE-JOINT.

JOHN M., 57 years of age, was admitted into the Men's Lower Surgical Ward on January 7, 1879, having, on the preceding night, fallen on the ice and injured his left ankle, which rapidly became swollen and gave him intense pain. Upon examination, after admission, an oblique fracture of the lower end of the tibia was detected, the line of fracture being exceedingly oblique; it was attended by great deformity; the inferior extremity of the fractured tibia projected nearly through the

skin, threatening at any moment to convert it into a compound fracture.

In order to reduce the displacement and bring the fragments into apposition, I was obliged to divide the tendo Achillis: having done this, the parts were readily adjusted. The after-treatment has been conducted in the usual manner of treating such injuries in this hospital, keeping it secured in a fracture-box.

It is possible that by applying extension to the foot by means of a flat board, shaped to the sole and confined with a bandage, or the use of a gaiter, and making strong extension, we might have avoided tenotomy; but as the operation was not a serious one, and would not cause any subsequent inconvenience to the patient, the facility it afforded in the after-treatment of the case fully justified the procedure. On the other hand, had the bone penetrated the skin, as it threatened to do at the beginning, it would have involved not only the production of a compound fracture, but would also have led to an opening of the joint, with all the results of synovial inflammation.

Removing the dressings, you notice that there is some lividity and œdema around the ankle, but the contour of the limb is good, and the fragments are in complete apposition. Since the primary operation the case has not required any treatment beyond keeping him in bed with his leg in the fracture-box. You can see how completely the displacing muscular power has been kept in abeyance by division of the tendon.

We have had a succession of these cases lately,—five cases within a week of this form of fracture,—and I believe that they were all caused by slipping upon the ice. It so commonly occurs in persons who are partially inebriated, that I have fallen into the habit of speaking of it as "the drunken man's fracture."

SEPARATION OF QUADRICEPS MUSCLE FROM THE PATELLA BY MUSCULAR CONTRACTION—TREATMENT.

This is a rare and interesting case, which came into the ward on the day before yesterday. He is a fleshy colored man; his name is William D., 55 years of age. Upon admission he made the statement that he had slipped while walking upon the ice, and, trying to recover his balance, his leg gave way under him, and he fell heavily backwards. He found himself un-

able to walk, and was carried to the hospital.

I found in this patient, what you can see for yourselves, that there is a separation of the quadriceps muscle from the upper border of the patella, the bone not being broken nor injured,—a very unusual condition. I do not remember having ever seen a case similar to this,—that is to say, where the patella was intact; nor do I recall one exactly like it in the records of the hospital. Instances there have been, frequently enough, where the tendon being ruptured carried with it a thin shell, or greater or less fragment, of the bone; but such are really cases of fracture of the patella, and should be so classified; but there is none other in our records of complete rupture of the tendon of the quadriceps by muscular contraction: indeed, many surgeons have doubted the possibility of its occurrence.

My colleague Dr. Morton had a case* very like this about a year ago, but in that one the tendon of the vastus externus was not torn, and remained, conferring some power of extension upon the limb. In this you see the muscle is entirely ruptured, and extension is completely lost. In all probability the records of the hospital will not show any other than these two examples of this peculiar injury.

The production of the injury in both the cases named was by strong and sudden muscular action. I have long believed, and have taught constantly in this room, that fracture of the patella is almost always the result of muscular force, and is almost never produced by direct violence, as many authorities have stated. Even Dr. F. Hamilton, in his work on fractures, asserts that this injury is ordinarily the result of direct impact. It is true that a gunshot wound or a severe blow upon the patella, as in falling against the edge of a marble step, might cause it in exceptional cases; but on examination you will always detect some abrasion or injury of the overlying skin accompanying such a direct fracture and indicating its nature. I need not say that this is absent in cases of fracture by muscular violence, as it is in the case before us.

Examining the appearance of the parts, you are at once struck by this great sulcus when the joint is bent to a right angle, which is exactly three inches in breadth,

and is immediately above the upper border of the patella. Placing my fingers in this depression, the condyles can be distinctly felt; no band of muscular tissue remains; all power of extension has been lost; but possibly some fascia and connective tissue may exist uninjured.

In Dr. Morton's patient no union occurred, and I should not expect in this case that a good cure can be accomplished, although eventually some bands of fibrous tissue may be formed which will restore some usefulness to the limb; but we should not look for as good a result here as we would in a fracture of the bone. In simple fracture of the patella after the fragments are brought together, I know of no reason why we should not get bony union, although the contrary opinion has been strongly advocated.

After consultation we will determine what shall be done for this man in the way of operation. I may possibly cut down upon the tendon and fasten it to the patella by wire sutures, either drilling two small holes in the patella for the wire to be fastened in, or else introducing a screw into the bone, the two wires being fastened to a single screw. In the mean time, for a week or two, I intend to keep him quiet on his back, with his leg extended, a bandage being applied so as to keep the patella up as near to the tendon as possible. The patient is a stout, muscular man, and this injury may seriously affect the future usefulness of the limb.

ANGULAR ANCHYLOSIS OF KNEE—IMMOBILITY OF PATELLA AFTER RHEUMATIC INFLAMMATION, WITH CONTRACTION OF HAM-STRING TENDONS—OPERATION.

I have a patient, who will now be presented, with an extremely deformed knee, following an attack of rheumatism. The joint is not ankylosed with bony union, but there is contracture of tendons, which keeps the leg bent almost at a right angle. His name is Joseph B., 24 years of age; admitted January 13, 1879. The history he gives us is that in August last he had what was called acute rheumatism, which involved several of the large joints, but remained longest in his right knee. Dr. Hall, of Burlington, tells us that he attended him, and that the acute articular inflammation extended to nearly all of the large joints, and lasted about two months.

Examining this knee, the first thing noticed is the constant flexion, and, secondly, that the patella is displaced out-

* Published in the *Medical Times*, vol. vii. p. 174.

wards, and is fixed in its new position by firm adhesions. At the same time there is no real synostosis. A limited range of motion has been preserved, though it is extremely small. This check to extension seems to be owing to tendinous resistance, particularly the hamstring tendons; the one made the most tense by extending the leg seems to be the outer tendon, or that of the biceps.

The two things to be done in this case are, to attempt to dislodge the patella, and, after trying passive motion, to divide such tendons as interfere with restoration of the limb to its normal position. I propose to proceed cautiously in this case, in doing what we find is necessary.

We shall etherize the patient and institute passive motion, and then endeavor to displace the patella by force. As soon as anæsthesia is produced, I shall flex and extend the leg, and shall probably gain considerable by stretching the several adhesions; then we can determine what tendons are particularly involved, and perform tenotomy if needed. I can hardly expect to straighten this limb at once, but if there is not too much structural change, and the tendinous resistance is the only check, it can be restored very speedily; though I should scarcely expect great structural alteration in the joint to occur since only last August.

The position of the patella requires the most attention for the present. In cases like this, when it is fused by inflammatory adhesions, it may sometimes be dislodged by placing the sharp corner of a piece of wood against its outer edge and striking a sharp blow with a mallet, the block being guarded by being wrapped in several turns of a bandage, so as not to injure the skin.

A tenotome should have a blunt point and a round edge; for tenotomy you will never require a sharp-pointed tenotome such as you find in your pocket cases. With a round edge like this it is very easy to insert such an instrument through the skin for the division of tendons. When the tendons stand out saliently there is nothing to fear; the operation is a simple one. Insert the knife at the point selected for division, by holding the blade parallel with the border of the tendon, and introducing it vertically until it is beneath the level of the tendon; then, depressing the handle, the cutting edge is turned upward and outward, and the cord is divided by a sawing movement; the instrument is then

withdrawn, and the small opening sealed by adhesive plaster. In cutting the hamstring tendons there is no danger to be feared in the inner one; on the outside there is nothing to keep in mind but the peroneal nerve, which runs along the inner edge of the tendon.

The adhesions yield readily to passive motion, but the tendons require division. Turning the patient over on his belly, I insert the tenotome at the inner side of the biceps tendon, close to its edge, so as to escape the nerve. I have divided the outer hamstring tendon, which now loses its rigidity; passing to the inner cord, the same procedure is accompanied by a snap, as it also yields.

Restoring the patient to his former position, I will now make firm pressure upon the outer edge of the patella with this block of wood, bracing it against my chest. After several attempts the patella now yields and slips back into its place. Look at the limb! Now it is nearly straight, in marked contrast to its condition when he was brought into the room a few moments ago.

Our object in the subsequent treatment will be to hold what we have gained, and to avoid inflammation, or, at least, to keep it in check. We will have extension applied to the limb, by the same method that has long been in use in this hospital for the treatment of fractured femur: a broad band (two and a half to three inches wide) of good adhesive plaster is applied to the outer and inner side of the limb, making a loop under the sole of the foot, in which a perforated block is placed, through which passes the cord to which the weights may be attached for making the extension. The leg should be shaved before the plaster is put on. Two transverse strips now pass around the limb, one above the ankle and just below the knee, to keep the first from slipping. Around this a roller bandage is applied, the ends of the lateral strip being turned back at the knee under the bandage, since it is not desired to make extension higher than the joint. As pressure will do a good deal in keeping down inflammation, a closely applied roller bandage shall be carried up to the groin, and, in passing over the femoral artery, just before it goes through the tendon of the adductor, a compress is applied, in order to reduce the amount of blood going to the part, and to prevent undue arterial reaction. The entire limb is now enveloped, including

the foot, and we are ready to apply the extension. The cord from the little block at the sole of the foot runs over a pulley, which is temporarily fastened to the frame of the bedstead; to the end of the cord is attached a crate or frame-basket, made of four stout wires fastened at the top and bottom, in which you may put as many pound weights as you desire, up to fifteen or twenty pounds, thus enabling you to regulate your extension from day to day. This I consider much more satisfactory than the brick ordinarily used for extension, which is often heavier than is needed, and which affords us no means of graduating the force applied.

We have accomplished fully as much as I expected to-day, and the extension may yet bring the limb completely into a straight position; if not, we will see what can be done by passive motion at a future time. We have now only to guard against inflammatory over-action. Should the bandage not prove sufficient to keep down the inflammation, I shall have the knee enveloped in ice; india-rubber bags filled with pounded ice are very effective in keeping down the temperature. We shall add to this general compression by the bandage, the compression of the femoral artery, the application of cold to the knee, and the extension of the limb by weights.

PATHOLOGY AND TREATMENT OF ANAL FISTULE.

This man has what is reported to be an anal fistule. I have not yet examined him, but will do so in your presence. I have endeavored to impress the fact upon your minds of the constant location of the internal opening, and of the error of looking for it too high up. You will not fail to find it if you know where to look for it; it is always situated near the anus, just within the inner border of the sphincter muscle.

The method of diagnosis of anal fistule resembles the first step in the operation for its relief. Oiling a probe, you will introduce it into the external opening of the sinus, and hold it in one hand while you insert a finger of the other hand into the anus, where you will feel for a small point in the location just mentioned, where there is a feeling of loss of substance in the wall of the bowel. Having found it, substitute a slightly bent, grooved director for the probe, and now it passes through the fistulous tract, and, with the aid of the finger, is brought out of the anus. Di-

viding the tissue upon the director is a simple procedure, and completes the operation, for which no anæsthetic was needed. The wound must now be packed with a tent of oiled patent lint, to make it heal from the bottom.

A rectal fistule may be termed a collapsed abscess. It is the result of an abscess which originally may have been quite large, but subsequently contracted after its contents were allowed to discharge. This abscess may have dissected the loose tissue along the side of the rectum for a considerable distance, thus permitting your probe to pass up along the bowel. Remember this point: no matter how high up the abscess has extended, you will always find its inner opening, if it have one, just inside the sphincter muscle. The object of the operation is to close this false passage from the bowel, and, if you succeed in this, you will invariably cure your patient.

OSTEO-SARCOMA OF THE LOWER JAW—AMPUTATION.

This is the patient (a German, 25 years of age) who was operated upon at the last clinic for the removal of the jaw-bone upon one side. You will remember that it was a medium-sized tumor, of slow growth. It had been coming on for eighteen months, and at the operation it was found to involve the body and part of the ascending ramus of the inferior maxilla upon the left side. No glands were enlarged, and no especial difficulty was experienced in the operation.

The disease was found to have begun in the periosteum, and subsequently invaded the bone, forming one of the varieties of ordinary osteo-sarcoma.

The patient has not had a single bad symptom since the operation. The wound has nearly healed, and seems to have almost completely closed up in this comparatively short time.

The pathologist of the hospital, Dr. Longstreth, has examined the tumor, and reports that it is an ordinary spindle-celled sarcoma. From the fact that the entire growth was removed, and that there was no glandular involvement, I am led to believe that there will be no return of the disease.

F. W.

ACCORDING to the Registry of the Illinois State Board of Health, the total number of physicians in the State is 4950: of these, 3646 are regular; 437 homœopathic; 456 eclectic; 37 physio-medical; not stated, 336; all others, 38.

TRANSLATIONS.

PERFORATING ULCER OF THE ŒSOPHAGUS.—Goll (*Cbl. f. Chir.*, No. 3, 1879; from *Corresp. f. Schweiz. Aertz.*) showed, at a meeting of the Zurich Medical Association, a preparation of an Œsophageal ulcer perforating the trachea. The patient was a man of 39, emaciated, but able to work up to within fourteen days of his death. He took little nourishment; complained of dysphagia, which could not be accounted for, either by the Œsophageal sound or by the laryngoscope. The sound could easily be passed, but could only be retained one or two minutes, on account of cough and dyspnoea. During the last eight days the patient had extremely fetid eructations. Post-mortem examination showed an enormous ulcer situated at the bifurcation of the trachea and perforating forwards. The distorted and carcinomatous tissues had broken in such an irregular form as to make a very imperfect opening. There were several centres of carcinomatous deposit in the lungs. x.

REBELLIOUS EPISTAXIS PRODUCED BY A PARASITE.—Dr. Laudon, of Elbing (*Jour. des Sci. Méd.*, p. 57, 1879; from *Berlin. Klin. Wochens.*) reports the case of a robust workman, of 42, who had suffered from perihepatitis during the Franco-German war in 1870. The disease was complicated from its origin with occasional very abundant epistaxis, which lasted seven years and was accompanied by a sensation of pressure in the left nasal cavity. Examination with the speculum showed a corresponding swelling of the mucous membrane. The patient would not submit to tamponing the posterior nares, and no medication availed. Finally, one day, on blowing the nose, a parasite like a lumbricus escaped, the caudal extremity of which vibrated very rapidly. The expulsion of this parasite was followed by complete cessation of the epistaxis. On examination, it was found to be *pentastoma tenioides*, a parasite which usually inhabits the nasal cavities of dogs and, more rarely, of horses and goats; occasionally, of man. These parasites spend their early life encysted in the thoracic and abdominal cavities of certain herbivora, and, on arriving at maturity, escape and travel to encyst themselves anew elsewhere. It is probable that in this case some of these parasites had excited inflammation in the liver,

which would account for the perihepatitis observed in 1870. Afterwards they may have become once more encapsuled, when the perihepatitis disappeared. x.

THE ANTAGONISM OF MORPHIA AND ATROPIA.—Dr. Knapstein has made some experiments with a view to solve this much-disputed question (*Jour. des Sci. Méd.*, 1879, p. 55; from *Berlin. Klin. Wochens.*). His conclusions are as follows: 1. The simultaneous administration of morphia and atropia does not increase the tolerance of the latter drug in doses which may be called toxic, although the dose of morphia injected could not produce death by itself. On the other hand, the same may be said of the treatment of morphia-poisoning by atropia. 2. The sum of the doses of the two alkaloids administered frequently does not amount to that which would be required of either alone to produce the same effects. 3. Except the question of dose (animals were experimented upon), these results can be applied to man, and it may be positively stated that atropia and morphia cannot be used as antagonistic in poisoning by either drug. The *Jour. des Sci. Méd.* adds the case of a man suffering from insomnia and night-sweats, to whom were administered pills of atropia and morphia. The amount used to control the sweats and produce sleep was decidedly less than would have been required had either been alone employed. x.

FOR FURUNCLES.—Ext. arnica, 10 parts; honey, 20 parts; powdered lycopodium, enough to make a paste. Mix, and spread upon a bit of cloth, and apply, changing twice daily. At the same time take from twenty to thirty drops of tincture of arnica internally every second hour.

THE DAWN OF SCIENCE.—At a late scholarship examination at Rangoon, a candidate replied to the question, "What is liberty of the subject?" "To be able to eat as much as you like of a good dinner." At a former examination, a lad defined the chief feeders of the Irrawaddy as tigers, elephants, and alligators.

DIMINISHED NUMBER OF MEDICAL STUDENTS IN AUSTRIA.—The number of students of medicine in Austria has diminished greatly of late. In 1870 there were 1271 in Vienna, 418 in Prague, 257 in Grätz, and 80 in Innsbruck,—altogether, 2026. In 1877 Vienna had but 712, Prague 238, Grätz 138, and Innsbruck 45,—altogether, 1033. The whole number in 1877 was not equal to that in attendance at Vienna alone in 1870. The decrease has been progressive from year to year.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 1, 1879.

EDITORIAL.

YELLOW-FEVER EXPERTS.

THE "Proceedings" of the board of experts authorized by Congress to investigate the yellow-fever epidemic, recently published, makes it possible to form an idea of the work which will be accomplished. From the methods and plans adopted, it would seem that the history of the late epidemic will be thoroughly studied. Such study may, of course, be of almost incalculable value in its bearing upon questions of quarantine, provided really incontrovertible results are reached. Thus, if it can be clearly established that the epidemic was imported, and that its march was everywhere arrested by absolute non-intercourse, or if, on the other hand, it is demonstrated to have been self-generated, theoretical questions as to the nature of yellow-fever poisons will have to step aside in quarantine discussions. The danger is that the most careful and skilful scrutiny will fail to establish the facts with such indisputable certainty as to render them available for *positive* generalizations. It is very likely that the commission will give us a good clinical picture of the disease. Unless, as is very improbable, some distinct new therapeutics is reached, clinical discussions of the fever must partake of the nature of John Thompson's news. Yellow fever has been studied so often, and so thoroughly, that there is very little opportunity for discovery so long as the old methods of study are adopted. Fortunately for science, the pathological work of the commission will be supplemented by the voluntary offerings to the world of Dr. Schmidt, whose very able paper in the last issue of the *New*

York Medical Journal seems to overthrow the pathological conclusions and observations to which the commission, in the person of its chief microscopist, has already committed itself. If the head of the commission had had the extreme shrewdness which has given so successful a career to the leader of one of the national geological surveys, he would in some way have "bagged" the work of Dr. Schmidt, and shone more illustrious than ever with its reflected glory.

We have carefully examined the "Proceedings," to see whether the commission comprehends the wonderful opportunity for solid accomplishment which is seemingly open to it, namely, the establishing of the real nature of yellow fever. If it be true, as has been asserted by various eye-witnesses, that yellow fever is capable of transmission to the lower animals, it becomes a comparatively easy task for a skilful investigator to discover more of value about the disease in one year than all of the multitudinous "commissions" (and their name has been legion) have done in the century. The old plans of study have become "stale, flat, and unprofitable;" the new methods, properly applied, might yield a flood of light. The first procedure ought to be to determine whether the disease is transmissible to the lower animals or not. If it be so, the general nature of the poison, the laws of its generation and multiplication, the method in which it produces the symptoms and the pathological changes of the disease, might all be readily worked out with certainty and precision. Who knows whether it might not be shown that the disease is modified in its passage through the lower animals, in a manner similar to smallpox, and that "inoculation" or "vaccination" with the blood or secretion of the diseased animal may substitute a minor for a major disorder?

For such flights as these the commission shows no sufficient pinions. Giving it all

credit for earnestness, it seems plain that the best results to be achieved by it will be in the line of tracing the history of the epidemic, and that it is a fresh illustration of the extreme difficulty of fusing political ability and energy with scientific genius.

LEADING ARTICLES.

THE PLAGUE IN RUSSIA.

ON the first day of the present year there appeared in the London *Times*, among the various telegrams, military, political, and commercial, from all parts of the world, the following brief dispatch:

"BERLIN, January 1.—A serious epidemic is reported to have broken out in Astrakhan."

Probably not one person in five hundred who glanced at this telegram thought of it a second time. The name "Astrakhan" itself has a far-away sound to most people, and the fact of any epidemic breaking out in such a remote corner of Europe ("or was it in Asia?") seemed of only the slightest interest. But on succeeding days further and more startling news was received of the extreme mortality of this epidemic; whispers of "the plague" began to be heard, and for the last six weeks the daily journals of Europe and America have contained a regular bulletin on the progress of the plague, while the English weekly medical journals have given, in each of their recent issues, some account of the nature of the epidemic, and of its course so far as known. The importance of such an epidemic is not confined to Europe, but, such are the rapidity and frequency of commercial intercourse throughout the world, affects us in this country also, as will appear later. But even if this were not the case, and if the spread of the plague were to be confined to Europe alone, its course and effects should be watched by us with great interest, for it is now several hundred years since the "Black Death" has been seen in the West of Europe, and our present quarantine, so far at least as we derive it from England, originated in the attempts to keep away and limit the spread of the plague.

The present outbreak in Russia has not occurred entirely unexpected or unheralded.

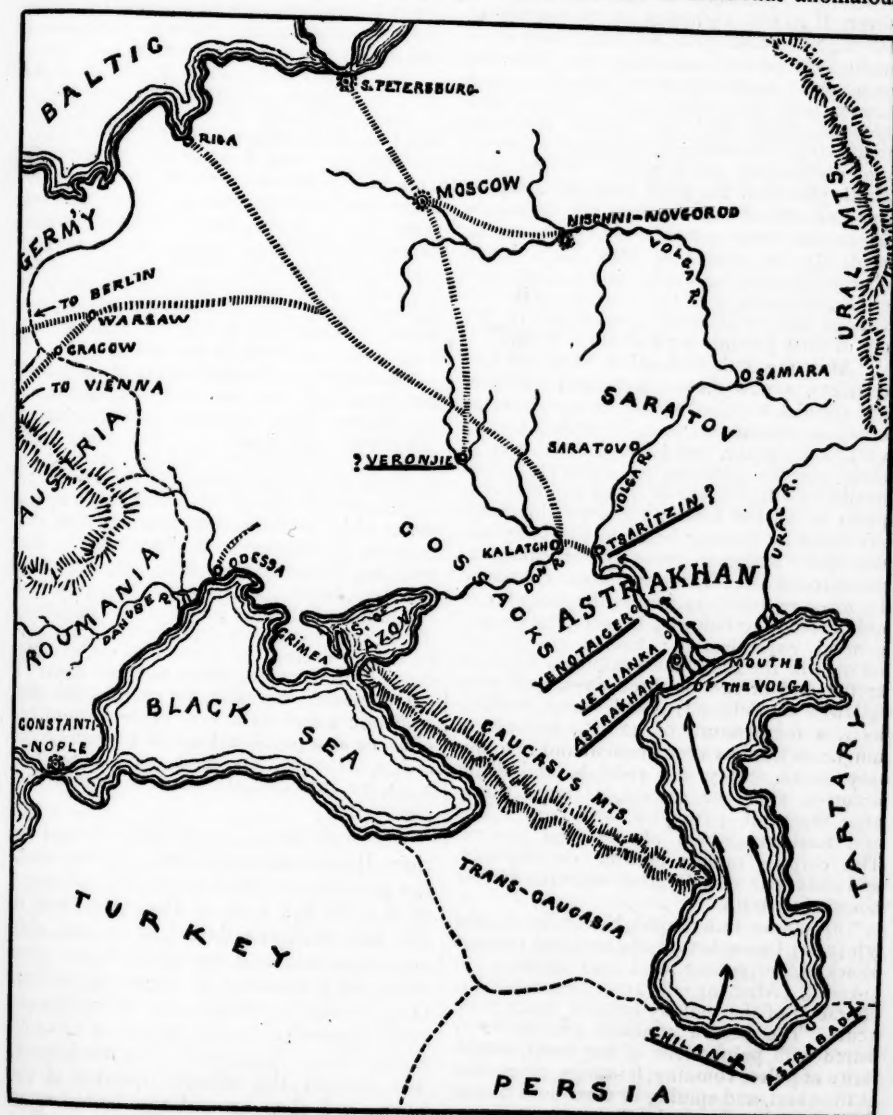
It is now some four years ago that Dr. Netten Radcliffe predicted the probable approach of the plague and suggested means for preventing its propagation. In Germany, also, Dr. Hirsch, who is an authority on epidemiology, predicted, two years ago, the present extension of the disease from its lurking-places in Persia and about the eastern and southern shores of the Caspian Sea. It is only a few months ago that news came of the existence of plague in the provinces of Ghilan and Astrabad, in Persia (see map), and rumor said that it had also appeared at Baku, in Transcaucasia, just where the Caucasian Mountains dip into the Caspian Sea. Now, these places carry on a considerable trade with the Russian towns on the Volga, and particularly with Astrakhan, which is one of the great centres of Oriental commerce through which the marts of Central and Western Europe are, to a considerable extent, supplied with Oriental merchandise. Moreover, it was through Astrakhan that cholera was introduced from Persia at the time it last prevailed throughout Europe. These known facts rendered it reasonable to conclude, when tidings of an "epidemic" in Astrakhan were received, that the disease in question was the dreaded plague.

The place and manner of the original outbreak in Astrakhan are obscure. A Cossack, so the story goes, returning to his home in Vetlianka, a village of some eighteen hundred inhabitants, situated on the Volga, a short distance above the city of Astrakhan, brought with him from the war a shawl, which was probably part of his booty. This he presented to his sweetheart. The girl wore the fatal gift for a few days, when she sickened with all the symptoms of the plague and died. During the following four days the rest of the family, six in number, sickened and died. The disease spread rapidly, but the authorities, it is said, did not pay any attention to it, declaring it to be merely typhus. But the mortality was frightful; half the inhabitants of the village died. Of eight physicians detailed for duty among the Cossacks of the district but one survived. The utmost panic seized the few remaining inhabitants; they fled, carrying the seeds of the pestilence with them, to the neighboring villages, until some nineteen were devastated.

All this, it must be remembered, occurred

before any news of the disease reached the ears of the outside world, for the epidemic in Vetlianka broke out about the beginning of November. The supineness of the Russian authorities in dealing with the epi-

typhus, which has been so fatal among the Russian troops during and since the late war. The report of Dr. Döppner, the surviving medical officer of the district, shows that the disease was somewhat anomalous



Localities already attacked by the plague are underscored. Places of origin are, in addition, marked with a cross. The direction taken by the plague is indicated by arrows.

demical in the first instance is remarkable, and can only be explained on the hypothesis that the doctors of the district made a mistake in the diagnosis of the disease, considering it at first as an outbreak of

in the symptoms it at first presented, although later every manifestation pointed towards true plague. Dr. Döppner's report, as given by the *Lancet*, February 1, is as follows:

"At the beginning (O. S.) of last November several inhabitants of Vetlianka were attacked with fever. After several paroxysms, and at the end of seven or eight days, the lymphatic glands of the armpits became swollen. On receiving information of this occurrence of fever, I visited Vetlianka on November 18 (O. S., November 30 N. S.), and found there eight sick people presenting the following symptoms: moderate fever, enfeebling and intermittent; the patients still on foot, with appetite, sleep, and the organic functions unaffected; abscesses, spontaneously formed and discharging much matter, of the lymphatic glands of the groin or of the armpits; duration of the malady from ten to twenty days. All these patients eventually recovered. In the month of May, 1877, I had observed symptoms similar to these, and also ending in recovery of the patients, at the advanced post on Mount Caucasus, where five out of forty persons were seized with them.

"After the 27th November, 1878 (9th December), a new disease appeared in Vetlianka, which attacked numerous people, some of whom succumbed to it. I made a second visit to the place, and I found there twenty-three persons suffering as follows: violent headache affecting the forehead and temples; pains in all the limbs; transient shiverings preceded by burning heats in the body and the eyes; abdomen tense; liver enlarged; pulse 100 to 120. These symptoms continued for three or four days, and in the more favorable cases were followed by perspiration and general enfeeblement; but in the greater number of the cases the symptoms recurred at the end of two or three days, and were followed by delirium, sleeplessness, restlessness, a temperature of 42° R., dryness of tongue, dejections very frequent and involuntary, urine scanty and reddish, and death occurred after the second, or more rarely after the third, paroxysm, with convulsions and total prostration of the vital powers. The corpses rapidly became decomposed, and cadaveric discoloration occurred twelve hours after death.

"From the 17th (29th) November to the 9th (21st) December, of one hundred persons attacked, forty-three died and fourteen recovered. After the 9th (21st) December the character of the malady became much more acute. The person attacked was suddenly seized with palpitations of the heart, irregularity of pulse, vomiting, faintings, oppression at the chest, and spitting of clear fluid blood; the aspect became pale, the expression apathetic, the eyes dull, and the pupils dilated. The patient lay for three or four hours in a state of absolute prostration, then a violent accession of fever with delirium followed, the urine was suppressed, and there was constipation.

"After the 10th (22d) December, to all these symptoms were added spots upon the

body of dimensions varying in size from a pea to a piece of ten copecks; the sick exhaled a peculiar odor, something like honey, and death was preceded by lethargy and collapse. The corpses became decomposed at the end of two or three hours. From the 9th (21st) December to the 14th (26th) December the number of patients continually increased, and finally reached one hundred.

"During my first visit to Vetlianka, I saw only six persons suffering from intermittent or low (*débilite*) fevers, in the course of which the lymphatic glands became swollen (Griesinger), and I reported accordingly. This form of disease, according to Griesinger, sometimes precedes maladies of a more serious nature, a statement confirmed by the events under consideration. At the time of my second visit to Vetlianka, and during the ten days I then passed there in the midst of the epidemic, my observations showed me that the disease was a kind of inflammatory fever, and I reported in that sense.

"According to the statements of the assistant-physicians who are under my direction, the disease which appeared on November 27 (December 9) appeared when there were no longer any cases in Vetlianka of the disease presenting the symptoms I observed on November 18 (30th). I admit, however, a close bond of connection between the first category of disease and the second. The swelling, inflammation, and suppuration of the lymphatic glands were the principal symptoms of the first phase of the epidemic. These symptoms were reproduced in a frightful degree during the second phase, causing death in from twelve hours to three days. I am disposed, therefore, to characterize this epidemic either as a very acute form of typhus, or as a peculiar kind of plague (*pestis indica*, Hirsch), or as a new disease of a nature intermediate between typhus and plague."

Although the epidemic had assumed serious dimensions on the 25th of November, the government was not officially informed of it until the 11th of December, and it was not until ten days had elapsed that any systematic and energetic means were taken for preventing its spreading further. Once aroused, however, the authorities exerted themselves to the utmost to make up for lost time. A double cordon was formed, first around the infected quarter of the town, and then around the boundary of the town itself. Quarantines were formed on each side of the Volga, for some distance up the stream, at Sarepta, Iwanowka, Olwada, and Tsaritzin.

But if the supineness of the Russian government in dealing with the disease on its outbreak seems surprising, its course in at-

tempting to suppress all news on the subject, and in permitting the wildest rumors to be circulated everywhere, is no less surprising, and hardly less reprehensible. For what we know of the spread of the epidemic we are chiefly indebted to the enterprise of the Russian press, and, of course, news coming in this way is necessarily more or less exaggerated, and must be received with allowance. Among other dispatches was one to the effect that the ground was covered with dead bodies; others stated that all the towns along the lower Volga had been attacked and devastated; that the inhabitants had risen against the physicians, and, declaring they were poisoning the people, had sacrificed them to the popular fury, etc. Careful sifting seems to point to the following as a complete statement of the condition of things:

A disease—the plague—broke out in the province of Astrakhan about the beginning of November, raged with increasing violence among the villages and towns of the lower Volga, but has, since the middle of January, sensibly declined. A glance at the map tells the whole story, so far as known. It will be seen that, thus far, the plague has pursued its course along the line of the Volga, not spreading much laterally, and scarcely, if at all, getting as far as Tsaritzin. The various rumors of cases appearing in Veronje on the Don, in Odessa, and even in Nischni Novgorod, far up the Volga, are not authenticated. What will happen in the future, however, who can say? It may be that the epidemic has been partially or entirely stamped out, as recent telegrams seem to imply, or it may be that the late cold weather has caused it to subside. But travel is so impeded in that country in winter time, no railroads having as yet been constructed along the Volga below Tsaritzin, that a lull might easily occur through lack of intercourse. The real danger will begin when, a few weeks hence, that magnificent highway, the Volga, is once more opened to traffic by the breaking up of the ice, and its fleet of five hundred steamboats again begins to pass along the line of the stream, from Astrakhan to Nischni Novgorod. The latter city, the renown of whose fair is world-wide, is always crowded with strangers from all quarters of the globe. This fair, held late in the spring and early summer, brings at least two hundred thou-

sand merchants and traders together annually. The result of an outbreak of plague among such a throng would be most disastrous, and, it is to be feared, would eventuate in a general propagation of the pestilence throughout all parts of Europe.

Recent advices indicate a general "scare" in the countries bordering on and doing trade with Russia. A joint commission of eminent German and Austrian physicians has been dispatched to the seat of the outbreak. Drs. Hirsch and von Pettenkofer have been called in by the German government to advise upon measures to be taken, and we believe the Royal College of Physicians, of England, has also sent a commission to investigate the epidemic. Meanwhile, the various ports along the Mediterranean which have a commerce with Russia are putting all vessels from the Black Sea and the Sea of Azov in strict quarantine. Palermo, Trieste, and Malta, as well as, we believe, Marseilles and other ports, are closed against Russian ships. Along the borders of Russia, with Germany, Austria, and Roumania, there is talk of drawing a military cordon, of instituting a strict quarantine at first, and, if the plague comes near, of enforcing absolute non-intercourse. Such methods are stigmatized by the English medical journals as barbarous and useless, as experience has shown that the disease will slip through. The thing to do is to clean up at home, do away with all that may harbor disease, and then stand by, disinfectants in hand, prepared to give the enemy a warm reception.

A somewhat sensational report in the *New York Herald* of last week contains, however, certain hints which should not be lost upon our sanitary authorities. The article in question gives the result of an interview with certain large rag-dealers in New York. It appears that we in this country depend for our rags for paper-manufacture largely upon Russia. The rags collected from the filthy Muscovites are taken first to Italy, and are then brought over as a stuffing to secure the cargoes of Italian marble so largely imported. Now, if these rags are brought from one of the plague-stricken districts, they may arrive here months after the disease has been forgotten, and may be the source of the plague here in our midst. We commend this observation to the notice of our health authorities. Meantime,

we learn that at last energetic measures are being pushed by the Russian authorities. General Loris Melikoff, with a corps of specialists and an army at his back, has been made temporary ruler of the plague-stricken district, with autocratic powers, and, having fixed his headquarters at Tsaritza, is purging it thoroughly of all discoverable agents which may serve to propagate the disease.

CORRESPONDENCE.

BOSTON LETTER.

MR. EDITOR,—A renewed publication of interesting facts concerning the history of the Harvard Medical School will perhaps not be amiss, inasmuch as many who are watching the present course of the school know but little of its past. I glean most of these data from an 1846 catalogue of the school and from the very valuable "Life of John C. Warren, with his Biography and Journals," a work which every medical man, at least every American physician, should own or, at all events, should read. For both of these I am indebted to the kind generosity of Dr. J. Collins Warren. I have found additional information in Dr. Oliver Wendell Holmes's history of the school in the "Harvard Book."

Before the Revolution there was no medical school either in Boston or Massachusetts. Neither by examination, license, nor by any other means was the public assured of the qualification of a medical practitioner.

The only means of instruction were the scanty library and private practice of the physician. Occasionally a gentleman "went home to England" to attend the London and Edinburgh hospitals. In 1765 a medical school was established in Philadelphia; in 1768, one in New York. But in those primitive days no one thought of going to such distances for medical instruction. During the Revolutionary war objections to dissection were hardly heard on the field, and there was abundant means of studying practical medicine and surgery. In such a school was educated the man who was destined to found the medical department of Harvard University,—Dr. John Warren, younger brother, pupil, and subsequently assistant of Dr. Joseph Warren, one of the first victims of the war. By illness Dr. John Warren was forced to leave the army. He settled in Boston; was appointed Military Hospital Surgeon. This gave him opportunity to pursue the study of anatomy to a degree hitherto unknown in Boston. In 1781 he began to lecture on this branch of medicine. His course was attended by physicians and a few students, and finally created

such an impression that the government of Harvard University invited him to lecture at Cambridge and assist in the formation of a medical school; and thus was laid the first stone. The school became a fact, and was opened in 1783. The original plan contained a clause to the effect that when a professor of the medical school was requested by any other gentlemen of the Faculty to visit their patients, he should endeavor to take properly-qualified pupils with him. Dr. John Warren was appointed Professor of Anatomy and Surgery; Dr. Aaron Dexter occupied the chair of *Materia Medica* and Chemistry; Dr. Benjamin Waterhouse that of Theory and Practice of Medicine. The latter gentleman will be remembered in connection with the introduction of vaccination into the country at the beginning of this century. He was also instrumental in establishing the botanical gardens at Cambridge. At this period opportunities for dissection were usually limited to one subject during a course. The difficulties in preserving the subject may be imagined. At this time, too, in order to reach Cambridge from Boston, it was necessary to cross by ferry, and in stormy weather to drive or ride nine miles around through Roxbury. In 1785 was conferred the first degree of Bachelor of Medicine, and the first graduate was John Fleet, who received his diploma in 1788. Medical instruction thus continued until 1809, "John Warren," says Dr. Holmes, "being the master-mind who gave the school success."

In 1805, Dr. John C. Warren, son of the professor, took a room in Boston over an apothecary's store (then No. 49 Marlboro' Street), and began demonstrations of anatomy to established physicians of Boston and a few medical students. These lectures he continued until 1810, meanwhile, in 1806, having been appointed Adjunct Professor of Anatomy in the medical school.

In 1810 the professors succeeded in securing the removal of the school to Boston. Cambridge bridge, built in 1786, overcame the difficulty in reaching Cambridge, but the teachers of the school were now in full practice, and to go to Cambridge and back daily became a serious evil. Moreover, most of the students resided in Boston. All objections, however, were finally overcome, and Dr. John C. Warren's little room over the apothecary shop was arranged as well as circumstances allowed, the school was transferred to it, and lectures were given here for several years. Lectures on anatomy and on hygiene were still given at Cambridge, this being a condition of the transferral. In the same year Dr. James Jackson was appointed Lecturer on Clinical Medicine, using the infirmary of the Boston almshouse as a hospital. As the number of pupils increased, the accommodations decreased in equal ratio. Dr. J. C. Warren and Dr. Jackson became particularly active in securing new quarters. Leaving

no stone unturned, in 1816 they succeeded in purchasing a lot of land and erecting a suitable building on Mason Street, besides obtaining a large grant for the University at Cambridge. The Faculty at this time consisted of Drs. James Jackson, Professor of Theory and Practice; Dr. J. C. Warren, Professor of Anatomy and Surgery, having been elected to this chair on the death of his father in 1815; Dr. John Gorham, Professor of Chemistry; Dr. Jacob Bigelow, Professor of Materia Medica; Dr. Walter Channing, Professor of Midwifery; the two latter having been appointed professors in 1815.

Connected with the institution was a library of five hundred volumes, which now contains about two thousand. In 1810 was also formed a society for mutual improvement of the students,—the Boylston Medical Society,—to which I made allusion in a former letter.

Meanwhile, too, the two Warrens, father and son, and Dr. Jackson, seeing the need of clinical instruction, agitated the subject of the erection of a hospital. Their earnest efforts culminated in the fine old Massachusetts General Hospital, which admitted its first patient in 1821. The McLean Asylum for the Insane was also erected and opened in Somerville, both institutions being under the charge of one corporation. These two retreats were the result of a contribution by subscription, the amount of which has rarely been excelled in this State. To-day the hospital is in most excellent condition, having been greatly enlarged by additional wards, and combining every facility which modern thought and science have invented. I shall allude to it in detail in describing the present condition and management of the school. At first, students were admitted on payment of a small fee. This afterwards was abolished. Medical visits were made semi-weekly, the students being conducted by Prof. Jacob Bigelow, who concluded his visit by a clinical lecture. Surgical operations were made on Saturdays, and this practice is still continued.

In 1829, Dr. John W. Webster was appointed Professor of Chemistry, vice Dr. Gorham, deceased. In 1835 was created the chair of the Institutes of Clinical Surgery, Dr. George Hayward being appointed professor. In 1836, Dr. James Jackson, after twenty-four years of service, resigned his chair, and Dr. John Ware was appointed in his stead. In 1847, through the liberality of Dr. George C. Shattuck, was established the chair of Pathological Anatomy, and Dr. J. B. S. Jackson made professor of this branch. He held the chair until his death, which occurred a few weeks ago. In 1855, Dr. Jacob Bigelow resigned the chair of Materia Medica, after forty years' incumbency. He was succeeded by the late Dr. E. H. Clarke.

Subsequent to the removal of the Medical School to Boston, subjects for dissection had been freely obtained; but great inconvenience

arose from the fact that the practice was not recognized by State laws. Between the years 1830 and 1844, however, through the efforts of the Massachusetts Medical Society, all difficulties were removed. In the year 1846 a handsome brick edifice was erected on North Grove Street, quite near the hospital, and, having been dedicated as the Medical College Building, the school was moved from Mason Street. This nearness to the hospital greatly increased the facilities for clinical teaching, besides saving much of the time formerly spent by the students between college and hospital. An independent wooden building was then erected for purposes of practical anatomy. To-day, however, this building is deemed insufficient, and a new structure will be erected elsewhere as soon as a proper location is secured. The Warren Museum, the nucleus of which was formed early in the century, occupies the whole depth of the college building. The main collection was presented by Dr. J. C. Warren, with \$6000 for its increase and preservation. The Museum has since received many valuable donations. In 1847 the late Dr. George Hayward presented one hundred and sixty-seven of Thibert's models illustrating surgical diseases. In 1849 the late Dr. John Ware gave a set of ninety models by the same artist. In 1875, Dr. Wigglesworth presented an excellent collection of models in wax representing various cutaneous diseases. The curator, the preserver, the guardian-spirit, one might say, of this museum has been, for more than thirty years, the late Dr. J. B. S. Jackson.

The physiological laboratory of the school owes its existence to a bequest of George Woodbury Swett. Dr. Lombard has presented a valuable collection of physiological apparatus. There is likewise a most convenient and roomy chemical laboratory, much of its apparatus having been presented by Dr. John Bacon, formerly professor of this branch. The study of histology was made a branch of the curriculum, some years ago, the ordinary impediment having been removed by Dr. Calvin Ellis, who presented the school with a collection of microscopes. So that to-day a student who, to a certain degree, was not practically familiar with the histological appearances of normal and abnormal tissues, and who was as unskilled in the use of the microscope as are the majority of students from many, from most, indeed, of the schools of this country, such a student would be considered unworthy of the Harvard diploma. In 1859 the Summer School was established. While it existed in that form the students were practically instructed in chemical, physiological, and histological research, but laboratory work at that time was elective. Since the change was made in the plan of education, the laboratory instruction has taken the place of, or has been added to, didactic lectures, and students are expected

to attend the laboratory courses as faithfully as the ordinary lectures. The change in the plan of the school was made in 1871. The year is divided into two terms,—September to the end of February; then a vacation of one week, after which follows the second term, which ends with June. As you already know, the students are divided into three classes, and take up the various branches in their natural succession, "thus [to quote an exceedingly happy remark of Dr. Holmes's] passing through the entire range of medical studies in due order, in place of *having the whole load upset upon them at once*." I italicize the closing words, for it seems to me they present to one's mind the real effect of the pot-pourri style of teaching more sharply than any other reference to this matter which I can remember. We have but to recall the confused condition of our brains during our first year of medical study, and our vain attempts to systematize the chaotic effect of the mass of matter which was poured into our weary ears, in order to see at a glance how delightful must be the tranquil development now enjoyed under the system of study which is pursued in the medical departments of Harvard and the University of Pennsylvania. But the latter school still has something to do before it can claim that its diplomas are equal in value to those issued by the Harvard School. The greatest need is the adoption of the preliminary examination,—"*preliminary sieve*," as Dr. Bigelow quaintly terms it. And, rigorous as the Harvard plan of study now is, I have no doubt that before long another year will be added to the length of the course. Moreover, the examinations at the Harvard School are no longer oral, but written, three hours being devoted to each branch. In all probability, a man who stated that the blood passes from the lungs into the pulmonary veins, and *thence into the aorta*, and that the heart is lined by a *mucous* membrane, would hardly win a Harvard diploma. But within four years I knew a student who gave these replies to an examiner only a fortnight before graduation, and he was presented with his parchment. This, however, was in another school. So long ago as 1846 the Dean of the Harvard School was able to write as follows: "The character of the students in this school has always been highly respectable. A large number of them has had the advantage of a previous liberal education. From these circumstances it has arisen that no medical institution in the country, so far as we know, has supplied a greater number of professors to schools created in various parts of the United States." Up to that time forty-three graduates had been appointed to professorships. It need not be said that to-day the quality of Harvard medical graduates is better than ever. The care with which the annual examinations are made is shown by the latest statistics of the school. At the June exami-

nations for 1878 the rejections of first-year men amounted to 25 $\frac{3}{4}$ per cent.; of second-year men, 16 per cent.; of men of third year, 5 per cent. in theory and practice, 11 per cent. in clinical medicine, no rejections in surgery or clinical surgery, 36 per cent. rejected in obstetrics,—an average of 11 $\frac{1}{4}$ per cent. The average percentage of rejections, however, as you will observe, diminishes as the classes develop in medical knowledge. This is a wholesome indication of the character and quality of the teaching. But this is leading me into matters which I must reserve for another letter.

In mousing about for facts touching upon the history of the school, I find that in 1811 there was a good square fight between the Medical School and a body of twelve well-known physicians, who petitioned the Legislature to constitute them and their associates "a body politic and corporate by the name and title of 'the Massachusetts College of Physicians,'" etc. It is more than probable that many Boston practitioners of the present day never heard of this controversy, which so nearly resulted in the establishment of a second medical school in this city. In his biographical notes, Dr. John C. Warren says that before the professors of the Harvard Medical School became united with the State Society, the latter had uniformly opposed the school. Certain original members of the Society expressed the opinion that the Medical School should not interfere with the license to practise medicine, the Society at that time issuing licenses. This gave rise to the initial dispute, and the disaffected members left the Society. The result was that the Society lost the opportunity of influencing medical examinations, and also lost a large number of licentiates, young men naturally preferring the medical degree of the university to a mere license to practise. This was followed by the effort to establish a new medical school. The Society, the profession, and the Harvard School opposed this attempt. The faculty, John Warren at its head, waited upon the individual members of both branches of the Legislature, conversed with them, and invited them to attend the lectures in the school. This gave them a new interest in it, and led to the grant of money to the university already mentioned. Finally, a committee composed of Dr. John Warren and a large body of the veteran members of the profession met the Legislative committee at the State-House. The scene produced a deep impression, and was followed by discussions and debates in House and Senate, which covered a period of ten days, no other business being done. We can imagine the excitement of the town and State. When the question was taken there were two hundred and eighteen votes against the memorial, two hundred and nine in its favor. A reconsideration being moved and carried, the petitioners scoured the State for more

votes, which diminished the majority; but the latter defeated the plan, "and," says Dr. J. C. Warren, "great was the joy of the Medical School." At that time the Hon. Judge Story was Speaker of the House. He saw the inconvenience and injustice of the proposed plan, and took a decided stand against it, especially after Dr. J. C. Warren had written him an open letter, which was afterwards distributed throughout the community. This probably had very much influence in deciding the matter. If the result had been different, there would have been two regular medical schools in Boston, neither of which could have attained the success which has always followed the Harvard School. "The results of this combat," says Dr. J. C. Warren, "were, on the one part, a successful medical school; on the other, a hostility which showed itself whenever it could do so with effect." For example, there was a most unpleasant interference in the supply of subjects to the school. This created much feeling. The controversy, moreover, was carried on with great warmth in the newspapers of the day. These difficulties, however, were subsequently overcome, and the school has followed an uninterrupted career. Some interesting features of its present curriculum I must reserve for another letter.

One of the early professors of the school, Dr. Jacob Bigelow, father of Dr. Henry J. Bigelow, has just been laid away in the beautiful Mt. Auburn Cemetery, which he originated and designed many years ago. The present generation rarely if ever saw him during life, for he lived in strict retirement. He was famous as author, teacher, and scientist. His vigor remained unabated until his eightieth year was past. Subsequently his sight began to fail, and during the latter years of his life he was quite blind; but he ever exhibited a sweet patience, cheerfulness, even humor, until the last. During these weary years he frequently beguiled the time by translating into Greek and Latin verse favorite ditties and nursery rhymes. These he presented in print to friends. He died at the age of ninety-one, having resigned his Harvard professorship in 1855, after holding the same forty years.

Dr. Bigelow was shortly preceded by Dr. J. B. S. Jackson, already mentioned in connection with the chair of Pathology in our Medical School. Dr. Jackson was appointed to this professorship upon its creation, and resigned it only with his life. He was vigorous, active, youthful even, but a few days before his fatal illness. When at the dedication of the Medical Library Association he made the motion for the appointment of a committee to memorialize Congress on behalf of the Index of the National Medical Library, I sat near him, and remarked the elastic freshness of his look and manner. He died at the age of seventy-two, beloved by all who knew him. He lived for his two museums, both of which

owe their fine condition, their unusual value, and their superb catalogues to him and him alone. One of these described the Cabinet of the Society for Medical Improvement, and amounted to three hundred and fifty pages; the other was an octavo volume of seven hundred and fifty pages, descriptive of the Warren Museum, and was the result of twenty years of diligent, patient labor. Dr. Jackson was not a practitioner, but a curator of such rare excellence that it will be long before his like is found. But, while famous as a pathologist, he knew nothing of microscopy. Yet with his unaided eye he became more familiar with disease than is many a skilled manipulator of lenses. The vacancy in the Harvard School created by his death has been filled by Dr. R. H. Fitz, former Assistant Professor of Pathology. H. O.

Boston, February 13, 1879.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the Hall of the College of Physicians, Philadelphia, January 22, 1879, Dr. Henry H. Smith, President of the Society, in the chair, at which Dr. M. O'Hara presented a patient who had recovered from an incised wound of the spinal cord. Before exhibiting the case he made the following remarks:

Recovery from penetrating wound of spinal marrow.

Cases of recovery from wounds of the spinal marrow are very rare. Gross says that "they are extremely apt, even when of small size, to eventuate fatally in consequence of their liability to be followed by inflammation and softening of the proper nerve-substance." Typical symptoms are given as the result of division of the spinal cord, but deviations occur occasionally from the usual marked symptoms. These deviations can now be explained from the advanced light we have of the physiology of the cord, without the necessity of our saying that "no case is complete without a post-mortem." I present to you the patient, with the history of the case, detailing the facts observed merely, without explanation, more than merely referring to its being unique on account of the apparent recovery, as well as the peculiar sensory, motor, and circulatory disturbances resulting from the injury.

On September 24, 1878, I was called to see I. H. M., 24 years of age, and found him sitting up in a yard with his clothes on. He was very pale, and had a knife-wound in his coat, vest, and undershirt. On stripping him I found a wound, incised and penetrating, to the left of the mesial line, on a level with the

fifth dorsal vertebra. It was three-fourths of an inch long, and admitted the little finger to the depth of two inches obliquely inwards and upwards. The wound was oozing a serous fluid and blood. The bleeding was easily stopped by a compress. He had been stabbed with what was supposed to be a dirk-shaped shoemaker's knife within a half-hour of my seeing him. He had fallen on his right side. This side of his body was soiled after the wounding, and prior to my seeing him, as made out by questioning, he had had loss of power, with sensation of "pins and needles," in the left leg. I put him to bed, and found now that he had good power over the left leg, but with defective sensation from the knee downwards, the anæsthesia becoming more as I tested it downwards, until at the dorsum of the foot it was complete. At this time the muscles of the right side from the nipple downwards were flaccid, and the right leg was paralyzed. In the same region he had exalted sensibility to touch, and pricking sensations. His pulse was 60; respiration normal.

One half-hour later his pulse was 67, and quite irregular. Camphor, valerian, and spirit of nitre were ordered. At 6 P.M., about eight hours after the reception of the wound, he reacted, his pulse becoming 112, and the temperature being 100° Fahr. Power now returned slightly in the right leg, above the knee, and he had less tingling and better sensation in the left foot. Tincture of aconite and bromide of potassium were prescribed. At 10 P.M. he had considerable return of power in the right limb and foot, but had very little sensation in the left foot. His pulse was 112; respiration 22; temperature 102°. He had headache and general sweating for several hours.

On September 25 no change in the sensory and motor phenomena was noted. At 10 A.M. his pulse was 80, respiration 22, and temperature 100°. At 6 P.M. his pulse was 76, respiration 16, and temperature 99½°.

September 26.—He reported that the wound had pained him the night before. His abdomen was distended with gas. At 10 A.M. the pulse was 80, respiration 20, and temperature 99½°. He was given a laxative, and had a free passage, with copious urination.

The motor power in *both* limbs was now pretty good; but he still had some hyperæsthesia of the right side and anæsthesia of the left.

September 27.—At 10 A.M. pulse 50, respiration 20, temperature 99°. At 6 P.M. pulse 72, respiration 20, temperature 99°. No other observations were made, the patient appearing about the same as on the previous day.

September 28.—Everything seemed in good condition. The wound was now closed; he complained only of stinging sensations in the wound.

He continued to improve slowly. On Oc-

tober 5 I noted that he still had some paralysis of the right limb, and was feeble.

October 7.—He now sat up for the first time since treatment. The right limb was weak. He had much dizziness. When dizzy, his pulse at several observations was between 44 and 50.

October 14.—Pulse 80. The vertigo and slow pulse have disappeared. He still has alterations of sensibility in both extremities, but less marked. He has also electric sensations shooting down from the sacrum to the toes, principally of the right extremity. He has some muscular tremors, chiefly of the right side. About this time, and afterwards, he exhibited exalted reflex action in both limbs.

For the next week he remained in the same condition, slowly improving, and no special record was made.

October 22.—His pulse was very weak and irregular, and only 54. The right leg was cold. He now sat up for two hours at a time, but always felt weak after this, especially in the right leg. On the 25th he crept downstairs on his hands and feet. On the 27th he was able to walk about with fair strength. He was very emotional at this time, his character in this respect having been more or less altered since receiving the wound.

The patient has continued under observation up to the time of writing, January 17, 1879. He is steadily improving as to perception of sensation and motor power. Within ten days he complains that when he walks in the street, on bending his neck and body, he has pains shooting electrically down both extremities to the toes; while at rest he has nothing of this. His treatment now is counter-irritation and iodide of potassium.

I have endeavored to report this case closely, that you might discuss the subject freely, and also hoping that it might assist a little the investigators of the special subject of the physiology and the anatomical structure of the spinal cord.

Dr. Charles K. Mills said that he first saw the patient several weeks after the receipt of the injury, when he had recovered, to a certain extent, from the effects. Having studied the case, he was satisfied that the points had been well observed by Dr. O'Hara, and that it was a case of injury of the spinal cord, followed by approximate recovery. Persons having traumatic lesions of the spinal cord do sometimes recover, especially where there is a clean incised wound, as in the present case. The peculiar motor and sensory phenomena that have just been detailed are very interesting, and would be still more valuable if we could determine the exact extent and position of the section. Practically, the condition that persisted was that of paralysis of motion on the *right* side, and of sensation on the *left* below a certain point. It was stated that immediately after the injury there was

paralysis of motion on the same side as the external injury; but when the physician arrived this was on the right. According to the generally accepted ideas of the functions of the cord, in order to produce the symptoms reported, the section would be required to involve the right lateral half of the cord; but the external wound gave the impression that the injury was on the left side of the cord, which should have produced directly contrary effects. The knife may, however, have entered obliquely and wounded the two posterior columns and the right lateral column. Recent observations of Wenoschiloff have shown that while the most important sensory fibres decussate throughout the entire length of the cord, each lateral column probably contains sensory fibres for both legs. Vulpian has also shown that, besides the motor decussation in the pyramids, there are also probably subsidiary decussations in the cord. These views might, perhaps, help to an explanation of some of the apparently impossible symptoms in the case under consideration.

Dr. S. Weir Mitchell inquired, Upon what side was hyperæsthesia observed?

Dr. O'Hara.—On the right, and anæsthesia appeared on the left.

Dr. Henry H. Smith observed that he had heard nothing said in the report of the case about any injury to the spinal membranes. This must have occurred, and if the meninges were wounded there must have been hemorrhage to a considerable extent, giving us symptoms of pressure upon the cord. The case is a curious one, and interested him especially, since he had at one time given particular attention to spinal injuries, and, in fact, had written his graduating thesis on the subject of the injuries of the spinal marrow (published in the *Am. Jour. Med. Sciences*, about 1837). In this he recorded a number of experiments made upon cats, with especial reference to determining the respiratory tract of Sir Charles Bell. He never saw a case, either in his experiments or as the result of accident, in which the meninges were cut without the occurrence of considerable hemorrhages that gave trouble afterwards. He was led to observe that probably some of the symptoms in the case presented might have been caused by hemorrhage and subsequent pressure on the cord or nerves.

Dr. S. Weir Mitchell.—During the war there were a number of cases of injuries of the spinal cord, in which hemorrhage caused some of the difficulties. He alluded to one case in which a bullet entered the spinal canal, penetrated the membranes, and lay immediately in contact with the cord. This produced an extensive hemorrhage, running up and down between the membranes, and compressing almost the entire length of the cord, and causing symptoms that were difficult to define and classify. The post-mortem

examination showed that the bullet did not press upon the cord at all; the symptoms were all caused by the hemorrhage.

Dr. Mills had intended to refer to some of the symptoms being produced by injury to the membranes and hemorrhage, but, on the other hand, he believed that there were cases upon record of lesions of the cord in which the injuries to the membranes have been so slight as to cause very little trouble. In the present case he thought that the phenomena could not have been altogether explained by injury to the membranes and hemorrhage. In a case reported by Mr. Gowers in a recent number of the *London Lancet*, a man received a bullet-wound which involved one lateral half of the cord, the other half completely escaping. This presented similar symptoms to Dr. O'Hara's case. He thought that the injury to the membranes might have caused some of the pain. The hemorrhage from an injury to the dura mater would probably have settled low down in the vertebral column, and would not have accounted well for some of the symptoms present. A knife-wound of the pia mater would almost of necessity, to a greater or less extent, have included the spinal cord.

Dr. Frank Woodbury inquired of Dr. Mitchell whether the rapid recovery of the case in the course of about two weeks was not in favor of the theory of hemorrhage rather than that of destructive lesion of the cord.

Dr. Mitchell said that in experiments upon the lower animals rapid recovery often follows clean cuts of the cord. He did not think that in the present case any absolute and perfect evidence existed of the cutting of the cord.

Dr. O'Hara inquired what would be the symptoms of hemorrhage.

Dr. Mitchell said that the symptoms of hemorrhage into the vertebral canal in some cases are not positive, in others you have the signs of pressure and pain; much would depend on the amount of blood and the rate of bleeding. We lack thorough knowledge of spinal hemorrhages.

Dr. Henry H. Smith said that hemorrhage of a very extensive character does occur from very slight injuries of the membranes. A small leak in the pia mater may make a circumscribed clot, or an inflammation might also lead to a limited exudation. These would produce identical symptoms, and in each case the object of the treatment would be to promote absorption. He believed sufficient attention had not been paid to the effects of injuries of the pia mater. A wound made by a knife may be sufficient to produce serious disturbance of the sensibility and motion, although temporary.

Dr. O'Hara, in closing the discussion, said he could introduce his finger to a considerable depth into the wound, and could feel the bony laminæ between which it passed. He did not use the probe, but he had no doubt that the spinal marrow itself was injured primarily.

Localization of lesions in the brain.

Dr. Chas. K. Mills next read the paper of the evening, entitled "Notes on the Localization of Diseases of the Brain" (see page 245).

The President, Dr. Henry H. Smith, questioned whether localization could be of much advantage to the surgeon, as he did not think an operation would alter the prognosis. Trephining the skull near an abscess of the brain would almost certainly be followed by fungus cerebri, which generally is fatal. Fungus cerebri is very often due to an abscess situated at a distant point pressing out the brain substance through an opening in the cranium.

Dr. Mills believed that a correct knowledge of the locality of an abscess might be of assistance to the surgeon, who could trephine immediately over it and evacuate it. He believed that one successful case of this kind had been reported besides those alluded to in this paper. It is well known that comparatively large portions of the brain may be lost without bad symptoms, approximate recoveries taking place. An operation might be beneficial in case of abscess, but it is more particularly of use in cases of compression. An understanding of the symptoms of localized lesions might be of assistance in deciding upon the presence of what is known as counter-stroke by surgeons. It might be also that in some cases of hemorrhage or hydrocephalus an operation might be resorted to, and, at least temporarily, save the life of the patient.

Dr. Chas. B. Nancrede said that Dr. Detmold, of New York, had relieved a case of abscess of the brain by plunging a bistoury into the hemisphere, but the patient died soon afterwards. Dupuytren had in a similar manner opened a deep abscess in the hemispheres successfully, followed by recovery of the patient.

Dr. O'Hara mentioned a case of compression of the brain upon its convexity by an apoplectic effusion which was discovered after death. He believed that the patient's life might have been saved if he had been trephined.

Dr. Henry H. Smith said the subject of brain injuries was a complicated one, and we have by no means arrived at a conclusion. Several years ago, in consultation with Dr. Anderson, he saw a case of depressed fracture of the skull of unusual character. The boy, who had always been idiotic, was about seven years old when he met with the following accident. His father, being a stone-mason, while repairing a chimney, accidentally let a large stone fall, which struck full on the child's head, producing a depressed fracture. He was unconscious for several hours, until he was trephined and the bone elevated, and sensibility returned. Fungus cerebri occurred, and he lost fully two wineglassfuls of brain substance: whether it was cortical substance

or not he could not say; but the child subsequently recovered and became a brighter boy. He was apparently an idiot because he had too much brain.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 26, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Hemorrhage into the right optic thalamus and small cyst in the right corpus striatum; also, in the same case, a large cyst in the left corpus striatum. Presented by Dr. CHAS. K. MILLS.

H. P., æt. 55, female, five years before coming under observation, September 7, 1878, had an attack of rheumatism, but since had enjoyed good health, except frequent morning headaches, until August 27, 1878. On this day she felt weary and uneasy, and lay down to rest and compose herself. In about an hour, on attempting to rise, she found that her left arm and leg were stiff and helpless. She fell down; but I could not ascertain certainly whether or not she had been unconscious. She was put to bed, but in a few hours rallied, and was able to go around the house. She kept on her feet the most of the time between August 27 and September 7, but had pain and uncomfortable sensations in the head, and she would often stagger and occasionally fall.

On examination, her mind was found to be dull and inactive. The mouth was drawn very slightly to the right, but her face was not otherwise paralyzed. Her tongue was protruded without difficulty and without deflection; and the uvula and soft palate were not paralyzed. She had marked paralysis of the left upper extremity. She carried the fingers a little flexed, but they could be readily straightened. She had no grasping power in the left hand. The left lower extremity was also paralyzed, but was not as helpless as the corresponding arm. The limbs were not wasted. Farado-contractility was retained. She had control of her bowels, but her urine had frequently passed involuntarily since August 27.

Diminution of sensibility was present in the leg, arm, and face of the paralyzed side. The anæsthesia was more decided in the face than in the arm and leg. Even the left side of the tongue showed loss of sensation.

She exhibited no hemiplegic symptoms and no anæsthesia of the right half of the body. Both the patient and her friends were sure that she had not had a stroke of palsy previous to August 27, 1878.

Her condition remained about the same until September 15, when she had all the indications of a fresh apoplectic attack. She

became somnolent and semi-conscious, and had more or less muttering delirium. She had some dysphagia and difficulty of breathing. Her pulse was at first slow, but became rapid. All control of her bowels and bladder was lost. General muscular relaxation was present; but, by the resistance offered to passive movements, the helplessness, or motor paralysis, was found to be more marked on the left side. Anæsthesia of the left side seemed to be complete; but, owing to the overwhelming of the patient's faculties, the comparative sensibility of the two sides could not be thoroughly tested. On September 20 an acute bed sore began to form on the right buttock, afterwards going through the usual stages of an eschar from cerebral lesion. Conjugate deviation of the eyes and neck was a symptom observed in this case; the turning of the eyes was towards the right or non-paralyzed side.

The patient was kept as completely at rest as possible, a purgative was carefully administered, liquid nourishment was given, derivatives were used; but the efforts to save her life were without avail, as she died on the 2d of October. Her temperature on the two days preceding her death was as follows: September 30, in the morning, 99° ; evening, $101\frac{1}{2}^{\circ}$. October 1, morning, 102.8° ; evening, 103° .

A post-mortem examination was made seventeen hours after death. The skull was thin. The Pacchionian bodies projected very prominently. A large amount of serous fluid escaped on removing the brain. The pia mater, especially of the right hemisphere, was oedematous. The vessels of the circle of Willis and its branches were atheromatous; bluish-white plates were seen on their inner coats. The right middle cerebral artery in particular showed decided enlargement and degeneration of its walls. In the temporo-sphenoidal lobe, just below the horizontal branch of the right fissure of Sylvius, was a number of dilated vessels. The lateral ventricles contained a small amount of fluid.

A large recent hemorrhage occupied almost entirely the interior of the right optic thalamus, and had extended into the right crus cerebri. It had not, however, communicated with the lateral ventricle or striate body. The right corpus striatum, about the junction of its intra- and extra-ventricular divisions, contained a small, irregularly shaped old cyst about a quarter of an inch at its greatest length. The left corpus striatum had, centrally situated, a large cyst fully an inch in diameter, from which a considerable quantity of a light straw-colored fluid was discharged. Both cysts had smooth, yellowish walls. No other abnormal appearances were discovered in the brain.

The anterior part of the upper lobe of the left lung showed a slightly emphysematous condition. Evidences of pericarditis and of

acute endo-arteritis of the aorta were present. The spleen was atrophied; it weighed 14 ounces. Both kidneys were contracted.

In this case a point of considerable interest was the presence of the large cyst in the left corpus striatum, without the production during life of paralytic symptoms on the opposite side of the body. As from the history of the case the left hemiplegia and hemianæsthesia were probably due to the hemorrhage into the right optic thalamus, the small cyst in the left corpus striatum had also apparently not caused hemiplegic symptoms. It is now held by some neurologists that lesions of the thalamus opticus and corpus striatum do not of themselves produce paralysis; that the symptoms which so often result are the effects of pressure exerted upon the internal capsule. The tissue destroyed by the cysts in the corpora striata was well removed from the surface of the ganglia; if they represented former hemorrhages, the clots were so situated and of such size as possibly not to have caused marked pressure-phenomena. The hemorrhage into the thalamus opticus was of such a character as to probably involve the internal capsule to a limited extent directly as well as by pressure.

In regard to the occurrence of lesions in both corpora striata, I might say that I have several times seen cysts or softening in one of the basal ganglia apparently formed subsequently to a lesion of the corresponding body upon the other side of the brain.

In connection with the case just given, I also present, without special remarks, a specimen of *hemorrhagic cyst in the corpus striatum* taken from another patient, simply stating that the case was under observation several months, and never presented hemiplegic symptoms.

Cerebral hemorrhage, with hemiplegia and hemianæsthesia. By Dr. EDWARD T. BRUEN.

Margaret M., æt. 42, was admitted to the Philadelphia Hospital, November 11, 1878. She was unconscious, with stertorous breathing; her feet and face were noted to be oedematous.

Her husband, who accompanied her, said that several months previously she had been treated, in the Pennsylvania Hospital, for Bright's disease. He also stated that she had always been an intemperate woman, and on the day before admission he had found her, on the floor of her bedroom, intoxicated, but, after waiting a sufficient time for the effects of the liquor to pass away, he found that she was unable to speak or to move the right side, and that the stupor was accompanied by twitching of the extremities on the right side of the body.

She was first seen by me in the condition noted above; the pulse was 90, of good volume. The cardiac dulness was much increased, the heart evidently being hypertro-

phied; temperature, $98\frac{3}{4}^{\circ}$. Urine was found to contain a large amount of albumen, with numerous hyaline and granular tube-casts and some fatty casts, the hyaline variety predominating; urine scanty in amount.

On the 16th she became conscious, and during the day her power of speech returned to a certain extent, for she was able to make her wants known. Temperature on the right side, $99\frac{1}{4}^{\circ}$. It was noticed, however, that she did not give any evidence of sensation on the right side of the body, including the head and face.

The conjunctivæ could be brushed with a piece of worsted without annoyance, if the worsted was introduced between the lids from the side of the patient, showing that she was not blind, because she closed the eyelids if one attempted to introduce the worsted in front of the cornea.

Dr. Shakespeare, ophthalmologist to the hospital, reported the retina as in normal condition. The facial paralysis was of the variety usually seen in hemiplegia; the eyelids could be opened and closed, and the brow wrinkled.

During the next two weeks the paralysis improved very materially in the leg, somewhat in the arm, and the power of speech was partially regained. Her intellect never became sufficiently clear to enable me to determine many points suggested by the case. Death occurred December 4, 1878.

Autopsy.—The lungs were normal; the heart hypertrophied; no pleural or pericardial effusion; no ascites; liver fatty; the kidneys weighed about two and a half ounces each, and were fatty and contracted. The examination of the brain disclosed a large clot, the size of an olive, situated at the junction of the anterior portion of the left optic thalamus and the posterior portion of the corpus striatum. The brain substance was destroyed at this point, but the main portion of the anterior part of the corpus striatum was not injured. The left ventricle contained a considerable amount of fluid blood and serum; the membranes of the brain were normal.

I would call the attention of the Society to the very great preponderance of symptoms of anæsthesia over those of hemiplegia, the former remaining always unchanged, though the paralysis became much less complete. The hemianæsthesia existed on the same side as the paralysis.

It has been said by some authorities that in cases of hemianæsthesia with paralysis the vision is affected in regard to the power to differentiate colors, as in some hysterical persons the same phenomenon is observed.

The case might also suggest the application of metallic bands to the limbs, for it has been said that similar cases have been relieved by this means.

It was impossible to work up these points in this instance, and I am aware that it is

rash to cite this case as illustrative of cerebral physiology, because death ensued before the disturbances of the circulation had fully subsided; at the same time, the case is of collateral importance, and may be of interest to those engaged in the study of clinical medicine, for, owing to the labors of Meyer and Ferrier, I was able to localize the lesion before the death of my patient.

(To be continued.)

REVIEWS AND BOOK NOTICES.

PHILOSOPHY: HISTORICAL AND CRITICAL. By ANDRÉ LEFÈVRE. With Introductory Chapter by the Translator, A. H. KEANE, B.A. Philadelphia, J. B. Lippincott & Co.

At the conclusion of a careful reading of this book we lay it down with a conviction that the most worthy pages to be found in it are those from the pen of Mr. Keane. The introductory chapter is good: it is more than good,—it exhibits its writer as a man possessed of learning and apprehension balancing each other. We are made to feel that both are to be accepted as reliable.

To read the text of the book is to find one's self comparing, involuntarily, light wine and heavy beer,—is to be disappointed because of finding neither sparkle nor body. The text is, in truth, a kind of English opéra bouffe: lacking the high, it is deficient in the low; God being absent, devil is wanting.

Concession is to be made to M. Lefèvre on the score of erudition. No one may doubt that he has read widely; but an excursion with him is found to lead to the "Que sais-je?" of Montaigne, and to the "What matter?" of the author of the *Traité des trois Vérités*. One comes back having seen nothing, heard nothing, felt nothing.

We are not finding fault with M. Lefèvre without having comprehended him. A bald materialist, our author wears no wig. If physics were the sum of the all, M. Lefèvre would be full; physics being the least of the all, M. Lefèvre is empty.

A commendation justly to be given this book is that it is a very excellent epitome of philosophy. Had M. Lefèvre limited his aspirations to the work of a compiler, he would have deserved a meed of praise. Vaulting ambition, however, has overleaped itself: M. Lefèvre must set up for a philosopher himself,—not that kind of a philosopher defined by Pythagoras in answer to the query of Leontius, but the kind that presumes to consider itself a maker of things.

We liken the showings of M. Lefèvre to the showings of a looking-glass: our author has a good surface, he reflects well, but, like a looking-glass, he is no maker of anything. With hidden, with internal things, M. Lefèvre has no relation of office. To pass from our

metaphor, M. Lefèvre has eyes with which to see, comprehension with which to comprehend, but in that Sense of Apprehension by and through which it is alone possible to know of God, he is utterly wanting. The Soul of the world he cannot take hold of. He is lacking in the *Like* by which alone like is recognizable. The metaphysics at which M. Lefèvre scouts would pronounce M. Lefèvre soulless.

Being, by his own showing, without other "Like" than that of the Iconoclast, it is amusing to watch the gropings of M. Lefèvre. Matter and Force are well: "Ohne Phosphor kein Gedanke" is indeed true. Phosphorus, however, is comprised in the subtinties. Whence the subtinties? M. Lefèvre resorts to a sub-reply. "Life," he says, "had a lowly origin, being born of the waters." Here, at any rate, one thing is explained; namely, man's affinity with the meerscham.

The book, we consider, has as its object the ousting of God from his place in the universe. "It is alone the mind of a child," says M. Lefèvre, "that is satisfied when God is named as the cause of things;" but this he argues with such poor show of demonstration that we are not even prompted to review the theorems: we smile and turn away, pitying the man because of the weakness exhibited.

M. Lefèvre is decidedly lacking in the inner light. We have seldom read a man more lacking in it. Our author will never come to a knowledge of the "Spirit" of Diogenes. The "Mind" of Anaxagoras is for him less than an adumbration. The "Designer" of Socrates is to him a *dæmon* existing only in the imagination.

Vale, M. Lefèvre; go after Charron. Perhaps in Hades the priest will comprehend Gascon; perhaps in—in the somewhere, the physicist will apprehend Soul.

J. E. G.

ON THE SURGERY OF THE FACE. By FRANCIS MASON, F.R.C.S. Being the Lettsomian Lectures delivered before the Council and Fellows of the Medical Society of London, Session 1877-78. Philadelphia: Lindsay & Blakiston, 1879; pp. 150.

If it were not the case that American surgery is peculiarly strong in its plastic department, this little book of our English brother would have better chance for a favorable reception on this side of the water. To send to America a work treating of cheiloplasty, genioplasty, and kindred subjects, is something like sending coals to Newcastle.

Comparison of the book before us with American works of allied character makes it appear rudimentary and fragmentary. If the object of the Philadelphia publishers be other than to direct attention, by contrast, to the superiority of work done in this direction by our own authors, we may not commend the judgment that has risked the chances of the enterprise.

Regarding the diagrams contained in Mr. Mason's book, the less that is said about them the better. This fault, however, is much more likely to lie with publishers than with author. Comparing these diagrams with those found in the magnificently illustrated work of Prof. H. H. Smith, of Philadelphia, "Smith's Surgery," we find the difference not much less than that distinguishing fence sketches from portfolio performances.

In his little book of one hundred and fifty pages,—these octavo, but double-leaded,—Mr. Mason has essayed not only facial but oral surgery generally. In such an ambitious attempt, seconded by so little labor, failure, we think, was courted; failure has certainly been achieved.

J. E. G.

GLEANINGS FROM EXCHANGES.

SUCCESSFUL TRANSPLANTATION OF A RABBIT'S CONJUNCTIVA TO THE HUMAN EYE FOR THE CURE OF SYMBLEPHARON.—Dr. A. W. Calhoun reports the following case (*Southern Practitioner*, January, 1879). The symblepharon was of many years' standing,—the result of an accident in early childhood. The patient being chloroformed, the lower eyelid was separated from the ball from the inner to the outer canthus, the incisions extending as far down as the point at which the lower conjunctival fold should naturally be found. At the same time the outer canthus was slit up, so as to make the palpebral fissure of the same length. This left the whole inner side of the lid and the opposing portion of the ball in the condition of two large contiguous wounded surfaces. After bleeding had entirely ceased, the conjunctiva of a large white rabbit, ready at hand for the purpose, was carefully dissected off the upper lid and part of the sclerotic, and, being washed in warm water, was applied to the wounded surface in the patient's eye and carefully stitched in place. A bandage was placed over the eye, and the wound disturbed as little as possible. By the sixth day the bit of rabbit's conjunctiva had adhered, except about the edges. The lid was separated from the ball, and was quite movable in all directions. Later, an artificial eye was placed in position and worn with great ease.

SPINA BIFIDA CURED BY IODINE INJECTION.—Dr. Geo. W. Thompson reports (*British Medical Journal*, November 30, 1878) the case of an infant having a spina bifida situated over the first and second lumbar vertebrae. It measured about twelve inches in circumference, with a pedicle about two inches by one inch. It was said to have increased greatly since birth, being then only the size of a common marble. The child was ten days old. The skin covering the tumor was as thin as membrane; some strands resembling nerve-cords could be seen by trans-

mitted light. Pain was caused by pressure. The sphincter ani was paralyzed, allowing the faeces constantly to trickle away; the feet were movable. On pressing the finger firmly into the root of the tumor on its upper surface, an opening in the spinal column, large enough to nearly admit the point of the finger, could be felt directly over the spot where the usual spinous processes should have been, one of which seemed wanting. Operation was performed by withdrawing two ounces of serum and injecting the following mixture, as recommended by Dr. Morton, of Glasgow: Iodine, gr. x; iodide of potassium, gr. xxx; dissolved in $\frac{3}{4}$ of glycerin. This was repeated twice, at intervals of about a week, and with the result of a complete cure.

PLASTER-OF-PARIS BANDAGES.—Mr. D. S. Bent, in a communication to the editor of the *Medical Record*, calls attention as follows to a new variety of cloth for the plaster-of-Paris bandage, and to a new way of cutting the same. It is superior to the thin muslin or crinoline, and is known in the trade by the name of "cheese-cloth." Its meshes are finer than that of the crinoline; and, as no starch or dressing is used in its manufacture, the fuzz of the thread in the mesh is sufficient to retain the dry plaster without losing the same. To prepare it in rollers, the most convenient way is to take a whole piece (sixty yards in length) in which the end tags have not been removed, to any bookbinder's or printer's where they have a large *lever paper-cutter*, and get the cloth cut into strips of the proper width for rollers. Ten minutes' time will suffice for this, at an expense of about twenty-five cents. The strips are then ready to be cut off into the required length for rollers, and as the cloth is folded in yard folds, this is an easy matter. The sixty yards will make over a hundred five-yard rollers, and not the slightest drawing of the thread will be observed.

CÆSAREAN SECTION—RECOVERY.—Surgeon-Major T. Cody reports (*Lancet*, December 21, 1878) the case of a woman, without sensible external deformity, who had previously given birth to two children without difficulty, in whom labor was impeded by exostoses growing from the inner side of the rami of the pubes. Cæsarean section was undertaken and successfully performed, resulting in the birth of a healthy child, with complete subsequent recovery on the part of the mother.

CURE OF A SPINA BIFIDA BY THE ELASTIC LIGATURE.—Dr. Cavagnis, of the Bergamo Hospital, relates (*Annali Universali*, July) the case of an infant twenty-four days old brought to him with a spina bifida, two-thirds the size of an egg, situated in the lumbar region. He passed an elastic tube four millimetres in diameter twice round the base of the tumor, with a moderate amount of constriction. In two days the constriction was greatly increased. The tumor became at first violaceous, and then pale and flaccid, its apex

ulcerating. On the fourth day the tubing was removed. Three days later the child returned to the country, an ordinary ulceration occupying the place of the former tumor. The healing of this was soon completed, and a report of the case fifteen months later represented the cure as complete, only a slight depression being visible.

CARBOLIC ACID INHALATION.—The inhalation of carbolic-acid spray (two per cent. solution) in phthisis has been tried in the Mount Sinai Hospital, New York. The first case had fetid expectoration, with an average temperature of $102\frac{1}{2}^{\circ}$. The first effect of the inhalation was to increase to a marked extent the sputa, but at the same time to check the fever. The most important effect of the inhalations was to decrease the temperature from $102\frac{1}{2}^{\circ}$ to 101° , $100\frac{1}{2}^{\circ}$, and 99° . In some of the cases carbolic acid acted as an irritant, giving rise to considerable spasmodic effects, and in these cases salicylic acid was substituted. The latter agent did not produce such a decided effect on the temperature, but its action on the fever was equally marked.

ALTHOUGH we are among those who

"Never use a big, big D,"

at least, *hardly* ever, yet if there ever has been a time when we were strongly inclined so to do it has been when we have pried open the corrugated folds of our esteemed contemporary, the *British Medical Journal*, and endeavored to hastily skim its uncut pages. All this bother is now done away with, for since the first of the year our valuable exchange has reached us with nicely trimmed edges and sufficiently pliable paper. Besides this, the "British Medical" is now printed upon white paper, which will be considered an improvement by many.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 9 TO FEBRUARY 22, 1879.

NOTSON, WM. M., MAJOR AND SURGEON.—To report in person to the President of the Army Medical Board, now in session in New York City, for temporary duty as a member of the Board. S. O. 38, A. G. O., February 15, 1879.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—His extension of leave of absence granted December 23, 1878, from Headquarters Division of the Atlantic, further extended one month. S. O. 36, A. G. O., February 13, 1879.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to Commanding General, Department of the South, for assignment to duty. S. O. 33, A. G. O., February 10, 1879.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Leavenworth, Kansas, to accompany Companies A, C, D, G, and K, 23d Infantry, to their new station (a point on the south side of the North Fork of the Canadian), and remain on duty with them as medical officer of the new post. S. O. 32, Department of the Missouri, February 15, 1879.

LA GARDE, L. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for fifteen days. S. O. 26, Department of the East, February 18, 1879.